ComputerWeekly
Thursday, December 9, 1982

# Logica aims for more takeovers

**by John Kavanagh**

UK software company Logica is planning further takeovers in the US following an acquisition which has tripled the company's size there. Meanwhile in the UK Logica is benefiting from its split with the government's Nexos office systems firm, with a tripling of shipments of the 2200 word processor, previously sold by Nexos.

These developments emerged last week as Logica announced 30% growth in revenues to £33.3 million for its 1981-82 financial year.

Pre-tax profit was up 10% to £2.25 million. And the company has gone into its new year with a record backlog of orders, following a 50% increase in sales to £42.3 million.

It was a year ago that Logica merged its US operation with Freyburg Systems Associates, a US company specialising in banking systems. Logica took 75% of the new Logica Inc. Both partners had 50 staff but that total has risen to over 150.

Logica chairman Philip Hughes said this increase in staff numbers reflected the company's business growth, which reached £5 million. Hughes said the US operation would account for an even bigger part of the group business this year.

He added, "We are considering another couple of acquisitions overseas, especially in the US."

Hughes said Logica's involvement in banking in the US – two-thirds of its business is in this area – was seeing it through a "very tough" time for many companies in the US. One benefit of the recession was that there were many programmers on the market, so Logica was able to pick quality people.

In the UK, the death of Nexos had seen the marketing of the 2200 word processor pass to ICL and Logica, which builds the machine. Hughes said ICL was the main customer for the 2200 but the product was also doing well through the "very good" dealer network which Nexos had set up in five European countries, South Africa and Hong Kong. "We're shipping three times as many as a year ago," he said. "We shipped 250 last month."

The 2200 will also be boosted by the launch of a 16-bit personal computer based on the product. Logica is setting up a dealer chain for the microcomputer. The machine runs both the CP/M-86 and MS-DOS operating systems.

*HUGHES . . . Logica's growth has reached £5 million.*

About 40% of Logica's business was done overseas last year. The Benelux countries accounted for 10.5% of the revenues. Orders here included a contract to provide a control system for the entire national gas grid in the Netherlands. In Sweden, Logica grew by 35% and in Australia the company opened two new offices. Hughes said Logica was especially strong in the central government market in Australia. "We do more work for central government there than in the UK," he said.

# Plessey backs 'high tech park'

**by George Black**

PLESSEY Telecommunications is to back a new high technology park for Liverpool on the site of its strike-ridden Edge Lane factory.

The park is to open in a year's time funded by a mixture of private and public enterprise on a 60-acre site around the factory.

The scheme is to be run by Environment Secretary Michael Heseltine's Merseyside task force. The Plessey Technology Park will be on land under public ownership, with money coming from Merseyside and Liverpool local authorities.

The land at present consists of an old Plessey building which is to be demolished and a large derelict British Rail site.

Plessey site facilities executive Derek Fell said, "The idea is that we shall be able to get supplies of electronics parts locally for our System X project and at the same time provide employment."

# Commodore plans to manufacture in UK

**by John Kavanagh**

THE UK has been chosen by one of the world's leading microcomputer companies, Commodore International, as its third main manufacturing centre. The manufacturing decision was revealed last week as Commodore announced 63% worldwide growth in its last financial year, took the first UK deliveries of its 16-bit 720 microcomputer and spoke of plans to launch in spring a games machine costing less than £100.

The UK is Commodore's biggest market outside the US, accounting for a quarter of its sales. It claims to be the leading microcomputer supplier in the UK, apart from the UK firm Sinclair Research. At present products for the UK are made in West Germany, the other main non-US manufacturing company, where Commodore employs 190 people in its factory.

"We are still looking for the right site but we will definitely introduce UK manufacture next year," said UK marketing manager John Baxter. "Because we deal with high technology products there will not be a large number of jobs. We will start as we did in Germany, building one product. But we will buy a big site and grow into it. In Germany we now make seven products."

The hard-hit North-east, where Commodore made calculators and digital watches in its earlier days, is not a candidate for the factory this time. Baxter said the company wanted a more central site further South.

Baxter said the new factory was needed because of growth in Europe, although Commodore also hopes UK manufacture will make its products more acceptable to government purchasing agencies.

"We have always been annoyed that the government's micros-in-schools scheme listed only UK firms as preferred suppliers," Baxter said. "All the same we have held our own in that market. And the secondary school scheme, the biggest market, is now coming to an end anyway."

Commodore's 16-bit 720 business system is now in the UK. The machine, launched in April, has up to eight Mbytes of memory. The 500, aimed at the scientific market with its high resolution colour graphics, will be available in January. Soon afterwards Commodore plans to launch the Max games machine, already available in the US.

And the Commodore 64, a business and home computer selling at £350, will also be coming next year.

## *LINE NOISE*

IT'S an ideal time to start a bank, according to Mike Aldrich of Rediffusion Computers. If the base rate falls below 8%, two out of the four clearing banks will start to lose heavily because of the loading of their structure with high-street properties. Meanwhile small new banks will be able to offer financial services quickly and efficiently via Prestel and the new interactive cable television networks with tiny overheads. A similar thing is happening in the US, but there the big boys are making the running. The small and medium-sized banks have already lost many of their most profitable customers to Merrill Lynch, American Express and Chemical Bank which are offering remote banking facilities to personal computer users.

Citibank, Chase Manhattan and Bankamerica are expected to offer similar services.

*THINGS may be perking up for more than one company in the workstation business, it seems. Our man at the keyhole interface informs me that Keen Computers could be about to launch an ICL-type of high-powered graphics machine for use in the CAD/CAM field. It's going to run under the ever-more-popular Unix operating system, version 7 at first, then under Berkeley University's 4.2 version. We'll be keen to learn how competitively it will be priced.*

*RICHARDS . . . "Scheming".*

# Computer fraud woman jailed

DETECTIVE-constable Colin Couve, a member of Scotland Yard's newly-formed Computer Fraud Squad, was praised by an Old Bailey judge last Thursday for a "brilliant piece of detective work" in solving Britain's first computer fraud to reach the Central Criminal Court.

Mrs Sylvia Richards, 55, former head of the Payments Department for the London borough of Merton, was jailed for 12 months after being found guilty of conspiracy to defraud her employer.

She instructed the computer at Wimbledon Town Hall to send three cheques totalling £13,956 to her son Robin Brayshaw, 29, who had opened a bogus bank account in a false name.

Brayshaw, of Moffat Road, Thornton Heath, her son by a former marriage, had admitted the conspiracy to defraud the town hall. He was also jailed for 12 months.

Judge John Hazan said because it was the first computer fraud to be heard at the Old Bailey, he wanted to make it clear to anyone else who might be tempted that an immediate custodial sentence would follow.

He told Richards, of Shirley, Surrey, "You grossly betrayed your position of trust. As a result innocent people were put under suspicion in your department. The money you used was ratepayers' and taxpayers' money.

"This was a carefully thought out fraud which needed considerable skill and ingenuity. It was also a very difficult fraud to detect because you had taken every step to cover your tracks."

The judge ordered her to pay the council £2,107 compensation. Some £6,788 was recovered and £7,169 was still outstanding, the court heard.

Robert Watson, prosecuting, said the scheming Richards fed "inputs" into the computer to erase all trace of the money paid out.

# BT/ICL Merlin link-up

**by Andrew Thomas**

BRITISH Telecom has renamed one of its divisions and taken on ICL as a partner to meet private competition in the business market.

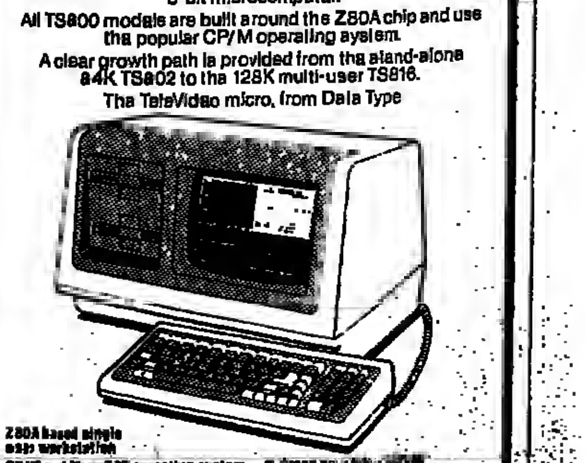
The newly dubbed Merlin is Telecom's old £500 million a year business products and services sector. It will handle equipment from all Telecom's traditional suppliers such as GEC, Plessey, Mitel, Philips, STC and is to take on three new and as yet unnamed products from ICL.

A Telecom spokesman described Merlin's role as being the identification of customer needs, the development and procurement of equipment and its sale to the telephone areas of British Telecom.

He added that Telecom was unlikely to start its own manufacture of equipment. "Our factories are not intended for this kind of manufacturing," he said.

The renamed division is to keep its old chief, Gordon Pocock, who remains at the head of the 500 strong London-based organisation. He will now have the responsibility for buying and selling added to his previous role of setting policy.

ICL products likely to be sold by the rejigged Merlin are the DRS range, System 25 and word processing equipment resurrected from the ashes of Nexos.



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## DP salaries lag behind inflation

DATA processing salaries in the South and South-east have failed to keep pace with inflation over the past year, according to a survey by Lock Management Personnel. Operators did worst, with a fall of 4.1%, and DP managers best with a rise of 6%, making an overall picture of a ½% drop in earnings for the DP sector. The survey covered 50 manufacturing companies.

## UK centre shut

UK HOTEL charges have forced the US computer-aided design systems manufacturer Calcomp to close its European training centre in Newbury, Berkshire, with the loss of seven of the 10 jobs. The company says it is cheaper to fly people to its US training centre and put them up in local motels than to have them stay in UK hotels.

## Professor of IT

A CHAIR of information technology at the University of Surrey is to be sponsored by Racal Electronics and the Industry Department. An initial fund of over £250,000 has been set up to pay the professor's salary for the first seven years.

*Newell*

## CBI choice

THE Confederation of British Industry has appointed F International managing director Alison Newell to serve on its central council. She was elected vice-president of the Computing Services Association earlier this year.

## Ansi to adopt Ada

ADA will become the fifth language to be formally adopted by Ansi, the American National Standards Institute, early in 1983.

## Happy Christmas

TODAY'S paper is our last until the New Year. It combines the issues of December 16 and 23, with no publication on December 30. We wish all of our readers a happy Christmas and a prosperous New Year. We will be back on January 6, 1983.

# ICL asks users to save Dilis

**by John Kavanagh**

LOCAL government users have been called on by ICL to help in a new bid to get its troubled Dilis direct labour organisations system to work.

Over a year after it was nominated as a "chosen supplier" by the Chartered Institute of Public Finance and Accountancy, ICL admits it will be late next year before the system can get Cipfa's seal of approval.

Pressure from users grew last month when ICL failed for the second time to get Cipfa approval, and now Cipfa itself is helping out by offering its own documentation to ICL and its users.

After a meeting of the new Dilis user group, ICL said this week: "It has been recognised that future development should be in close co-operation with user sites. A strong user group will provide detailed directions on improvements for future releases."

Lancashire County Council is the first user site to be picked for co-operation. Frank Baxendale, the assistant treasurer, is chairman of the Dilis user group. He has already said there would be "all hell to pay" if ICL did not get Dilis working.

ICL and Lancashire will be working on a new release of Dilis, due to be released in April. But ICL says that will not be the final release. Another version later in 1983 is expected to be the one which will meet Cipfa's specification and get ICL its "preferred supplier" tag.

Users welcomed ICL's statement cautiously this week. "The system doesn't do all ICL said it would but we're making progress," said Douglas Moulson, treasurer at Carlisle City Council.

"ICL's new approach will be a better way forward and gives us hope for the future."

Moulson and others said one of the problems had been insufficient implementation support from ICL. This had led to data being entered wrongly. "We're now working on unscrambling eight months' work," he said. "Our biggest problem recently has been rebuilding staff confidence."

Carlisle is negotiating with ICL over the charges for additional support provided by the company.

ICL has 101 Dilis customers. These orders amount to over £1.4 million in software alone. The other preferred supplier, CMC, got the Cipfa seal of approval early this year. Other computer suppliers have developed systems without hope of a seal of approval and say they have been hit by Cipfa singling out ICL and CMC.

*TRICKETT . . . "I think the 20 staff who have resigned will be enticed back."*

# Prime buys Compeda

**by Andrew Thomas**

US MINI-MAKER Prime on Tuesday bought Compeda, the publicly backed systems house, for £1 million down. The sale followed months of uncertainty for the UK computer aided design and manufacturing systems firm.

The deal gives Prime the worldwide marketing rights to Compeda's stable of software, including the best selling plant design management system PDMS. Compeda is to keep its name as a Prime subsidiary with all its staff.

Keith Trickett, Compeda managing director said: "I think that the 20 staff who have resigned will be enticed back."

But the ownership of PDMS will stay in British hands at the Cambridge CADcentre, another British Technology Group-backed company.

BTG would not give the full details of the multi-million price for Compeda, which involves the down payment and further payments in royalties to the CAD centre, itself on course to be sold off early next year.

A BTG spokesman said: "The agreement with Prime is the one which satisfied all parties involved. It was not the easiest to pull through but the company and the taxpayer will benefit."

Prime is also discussing the question of UK and European marketing rights to PDMS with Quest Automation, one of the companies involved in the abortive attempt to form a UK "super" CAD/CAM company in October.

The Compeda saga began 18 months ago when the BTG announced that the Stevenage-based company was to be sold. Nothing was achieved, and following the collapse of talks with Racal Redac and Quest two months ago, Compeda's 170 UK and overseas staff were put on three months' notice.

In November, Trickett accused the Department of Industry of changing the ground rules for a sale. Trickett maintained that, at the outset, it was stated that no objection would be made to the sale of Compeda to a foreign company provided no UK interests were threatened. But following an offer from US CAD giant Computervision, rumoured to be five times larger than the eventual sale price, the rug was pulled out from under their feet by a High Court writ from Nottingham-based Isopipe.

Isopipe was involved in the early design stages of the PDMS system, and wanted PDMS kept under British control. But the end result of the legal move was to cause Computervision's deadline to be missed.

# DEC mainframe challenge

**by Kevan Pearson**

DIGITAL Equipment has unveiled its strategy for linking computer systems with a major challenge to the mainframe manufacturers.

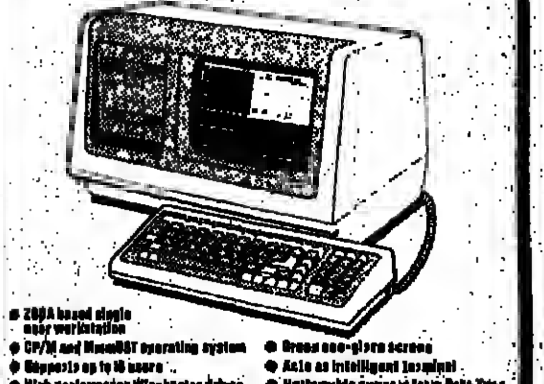
On Monday it launched a range of hardware and software products for distributed processing which provide fully shared processing and storage facilities through a high speed coaxial bus and an intelligent storage device controller. Users, DEC said, will be able to access programs and data transparently from a terminal without the delays and file duplication of conventional networks.

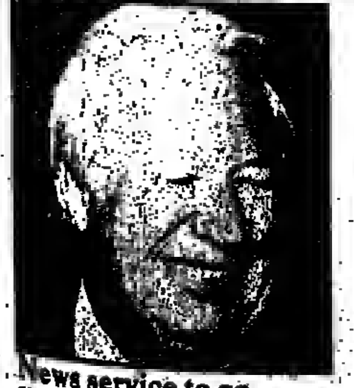
First implementation of the products will be on DECsystem 20 mainframes. Plans are afoot to allow PDP-11 and Vax minicomputer architectures to use the systems, as well as DEC's personal computers.

Up to four DECsystem 20s can be connected by DEC's CI 70 megabits/second bus, although the bus is limited to 90 metres. Shared storage facilities are available from the HSC50 "intelligent mass storage server", which can support up to 24 peripherals, and the CFS 20 common file system running under the TPOS20 operating system.

First installations are scheduled for the fourth quarter of 1983. In addition to links to computers in DEC's product line, the bus architecture will be linked to its DECnet network system and to its Ethernet local area network.

Prices range from £13,650 for each bus adapter, with the bus cable prices varying according to length. The HSC50 is priced at £22,750.





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# News service to go live in January

by George Black

IRIS, the international computerised news service aimed at bringing up-to-the-minute information to governments and large corporations, is to go live in January. At its heart will be a £3 million Burroughs computer complex based in Washington DC.

Iris (International Reporting Information Systems) is to offer a customised news agency service at a cost of $100,000 a year to corporations and $500,000 a year to governments.

Steve Burrows, chief of software development in Springfield, said, "We are on schedule for our first clients to go live in early January."

Former Prime Minister Ted Heath, who is on the Iris advisory council, said he hoped the service would influence how multinational corporations treated the developing nations by reducing the risks of investment.

Heath, speaking at the UK Online User Group meeting in London, was questioned by international delegates, many of whom were sceptical both about the impartiality of the data and about the scheme's value to the poor countries.

He retorted "It seems to me we are providing the utmost that a client can require – and the price is very reasonable."

Very few governments had comprehensive information to rely on, he said, and many suffered from inadequate diplomatic channels. Governments all over the world were showing interest in Iris.

"To me this is very exciting indeed. We will not be looking into a crystal ball, we will not be making risk assessments. But we will provide a basis for judgment for those who have to look to the future."

His two years with the Brandt Commission had made him concerned about how information could help solve the problems of world poverty.

"North and South is the major issue facing us in the future, more important than East-West relations," he argued.

The project is owned by a world banking, insurance and financial investment consortium. Its advisory council also includes former US Defence Secretary and former World Bank president Robert McNamara; former Colombian Finance Minister Rodrigo Botero; and former French Trade Minister Jean-Francois Deniau.

Tom Crowley, systems consultant for the Netherlands-based company, said the eight clients so far included Timex, but he expected the main response to come from Third World countries, particularly those dependent on a small number of commodities.

Clients will begin by giving a profile of themselves and their requirements. This profile is used to generate a program that tells the computer what data to select. Fifteen thousand reports a day will be handled in eight languages by a team of 48 experts from a journalistic background. Iris will issue six daily reports on events in the world's main regions.

HEATH . . . "We will not be looking into a crystal ball".

BROWN . . . "It is not easy to change one's philosophy."

# Computer Automation plans to sell direct to big companies

by John Riley

COMPUTER Automation has changed tack to get directly to big users. It is now selling its systems to big companies, systems houses and directly to end users as well as its traditional OEMs.

"It is not easy to change one's philosophy, because support and post sales software service have to be provided," commented CA's European general manager, Mike Brown, "but we have organised extensive back-up in the UK and are now in a position to begin an aggressive marketing campaign."

CA announced a new software system, Unix, at Comdex, Las Vegas late last month. This is a time sharing system which runs on CA's Series 5 machines and fits between CA's bottom end multi-user business system Omnix and its recently introduced top end real time Cartos system.

Local area networking of the Ethernet type will be the next extra for users of the Syfa communications system made by US company Computer Automation. It will be based on coaxial broadband cable one kilometre long, allowing access to 64 processors such as the Syfa minicomputer, and a further 256 smaller workstations, which could be microcomputers.

CA emphasises that the local area product, to be launched as Syfanet in April 1983, will be an addition to the existing Syfa system, and not a replacement. "It allows the user more horsepower," says David Spicer, manager of the UK communications division.

CA's development of Syfanet brings it into competition with one of its customers, Toltec, which makes the rival Cambridge Ring local area network. CA sells processors to Toltec, and until recently referred customers to the company.

But Spicer claims there is no conflict of interest.

# Canadian firm goes non-stop

ANOTHER contender in the non-stop stakes is at hand with the arrival of Geac Computers' entry. The product, based on the Canadian company's 8000 processor, will be offered to OEMs as part of the strategy to move into the general systems market.

The non-stop system has been working in the foreign exchange department of a major UK bank for the past 18 months. The release on to the general market heralds a change in the fast-growing Geac's policy of delivering complete systems into vertical markets.

Geac has built up a good name in banking and library systems where it offers fast online record by record transaction processing with large databases, says Bill Ross, general manager of the General Systems Division.

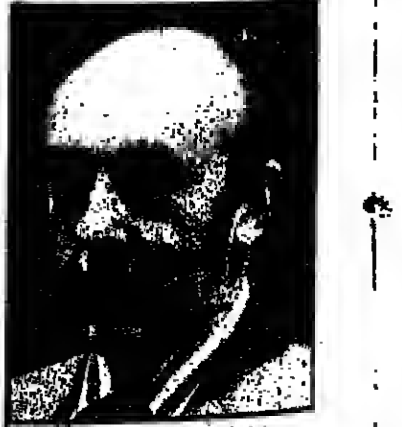
Turnover has grown in the UK from £750,000 in 1979 to an expected £4.8 million in the year ending April 1983, and Ross says an 80 to 90% growth is the norm. Geac's worldwide revenues are expected to rise to $50 million by April 1983 compared to $35 million last year.

An issue of shares by the private company is likely soon on a Canadian exchange.

Geac prides itself on its communications expertise, and has been working closely with Ungermann Bass, Ethernet to link "lots of micros" to its non-stop system. A networking product, developed in the UK for one of its banking customers, will be on general release next year. Still without a name, it is a multi-access workstation which allows switching by a terminal on a network from service to service by a single key depression.

Ross cites the installation it was developed for, where an operator can go from Prestel to BT Gold to direct access to an IBM database or to IP Sharp's network, for example. The plans are to bring the product into office automation systems.

Geac systems run under their own operating systems and languages, and Ross recognises that there will be a lot more attraction for the company's products when industry standards languages are incorporated. That is coming, he says, and the company is looking for vertically market oriented systems houses to market Geac equipment.



ROSS . . . Starts in non-stop.

# IBM cuts up to 35% off small system prices

by George Black

IN A bid to boost its market share IBM has brought in big cuts in the prices of its smaller systems. Reductions of between six per cent and 35 per cent come into effect this month.

The changes affect products in the minicomputer and distributed processing range, including the 8100 information processor, 8775 display terminal, System/38, System/34 and System/23 computers, the 5217 printer, Displaywriter, and other data systems and printers.

And new special terms have been introduced for bulk buyers.

The cost of memory for the 8100 has been cut, making a 9% drop in the price of the processor, with improvements of between 10 and 25% in the terms for volume purchase agreements on the 8101, 8130 and 8140. Similarly, the 8775 volume agreements show discounts of from six to 15%.

System/38 model 3 has been reduced in price by £5,253; model 4 by £6,458; model 5 by £12,037, with a further 29% offered off memory prices; and model 7 by £10,698. System/34 is cheaper by £1,715 for nine and 13 Mbyte models, by £3,430 for 27 Mbyte models and by £8,074 for the 64, 128, 192 and 256 Mbyte models.

System/23 prices are reduced by 17% for the 5322 integrated model and 23% for the 5324 ergonomic model. The 5247 disc drive is 25% cheaper and the 5246 diskette drive 20%. Costs of the 5217 printer are 6% down for small numbers and as much as 15% for over 100.

Displaywriters are down by £522 for the 6580 electronic modules, by 20% for the 6360 diskette drive and 28% for 5218 and 5288 printers. The 5280 distributed data systems series becomes cheaper by up to 20%.

# MAP gets the spirit

by John Riley

CHRISTMAS spirit was added last week to the Microelectronics Application Programme's fifth Case Studies launch. Two MAP-subsidised microelectronic applications, one for ensuring consistency of whisky malting (MAP grant of £22,000 to Robert Hutchison Company) and one for a model train set (MAP grant of £67,000 to Hornby Hobbies), were introduced in London.

George Hook, general manager of Robert Hutchison commented: "Malting is glorified gardening, and you have to watch it all the time." Microelectronics control the process of malt production.

Microelectronics have added a new dimension to model train sets. A master unit can now control 16 locomotives and 99 accessories to run simultaneously at different rates on the same stretch of line with continuous even current.

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# Abacus drops out of DEC network

by John Kavanagh

ONE of Digital Equipment's five authorised terminal distributors in the UK has dropped out of the peripherals business just nine months after the authorised distributor scheme started. Electronic components specialist Abacus Electronics says the terminals market is too cut-throat and undisciplined for a big professional supplier trying to provide good support services.

But elsewhere a year which brought a complete restructuring of DEC's terminal market in the UK has ended with the US giant's promise of a happy Christmas coming true for most of the suppliers involved – both inside and outside the authorised distributor scheme.

It was Abacus which led the critics of the scheme in September, when the "official" distributors claimed they were being undercut by suppliers which were outside the scheme and facing competition from DEC itself.

Later the company complained that after gearing up to sell the Robin microcomputer option on the VT100 terminal, distributors had been hit for six by the launch of DEC's Professional and Rainbow personal computers.

This week Abacus marketing director Colin Piddington said the company had made "enormous losses" on peripherals. "That market is completely undisciplined and I can see no future in it for the big, professional distributor," he said.

"As a £12 million components distributor we were geared up to offer a certain level of service. But we found people weren't interested in service or the size of the supplier's inventory – their first question was always, 'How much does it cost?'

"As a result there is unbelievable in-fighting in the peripherals market. The components business is far more disciplined because there are many more products and the suppliers can't fight over every one."

Abacus moved into peripherals through the takeover of Comma Computers in 1980. That takeover led to a lawsuit between Abacus and Comma's founder, George Macfarlane. Piddington said that unhappy start and Abacus' inexperience in the peripherals market were among the reasons for its lack of success outside its profitable components business.

Staff handling the DEC and other peripherals had been reduced from over 30 to just three since May.

He added that the split with DEC had been amicable, with the US firm taking back stock even though it was not contractually bound to do so.

Meanwhile the other DEC distributors said the market was now sorted out. Contracts between DEC and firms outside the scheme had come to an end, so there was no more "unfair" compeiition. And the Robin was doing well against DEC's new microcomputers as users realised they could add a communicating microcomputer option to their existing terminals.

"There was some uncertainty while people waited to see what the Professional could do but now we're generally pleased with the way the Robin is going," said Nick Harding, terminals manager at authorised distributor Rapid Recall.

DEC said the launch of the Professional had boosted Robin sales by showing that the company was in the microcomputer business. And a spokesman said the authorised distributor scheme had increased sales to such an extent that DEC was the leading terminal supplier in the UK, with 15% of the market.

Big former DEC distributors excluded from the "official" scheme are also preparing for the new year with optimism.

PIDDINGTON . . . "Enormous losses".

KING . . . "Pascal is not firmly established for serious industrial uses."

# Fortran still leads, says US poll

by George Black

FORTRAN still dominates the language bazaar among American industrial multi-user systems, with 50% of the market.

This emerged from a Stateswide straw poll conducted by Alan Titchmarsh among 400 large organisations in the instrumentation field. Titchmarsh, who has been in the US to promote Systems Programmers Limited, found that only 20% of those polled used Pascal, 15% used C, 10% used Assembler, and the remaining 5% various other languages.

The inquiry follows the signing by SPL International in June of Intelligent Industrial Systems as its American agent. SPL is seeking to establish a market for its products based on the ICI language RTL/2.

IIS, part of a $300 million corporation, is promoting RTL/2 products, including the Magic package, in the real time control systems area.

Since its launch in January 1981 the Magic package has achieved 60 sales.

Jim King, sales manager at SPL's Abingdon research division, said that he hoped within a couple of years American sales would be bringing in as much as the European operation.

"Pascal is not firmly established for serious industrial uses in the US and we think RTL/2 has big opportunities over there," he said.

# No Scots to fill DP jobs

by John Riley

THE Scottish DP industry will soon have a shortage of trained Scots if the "Silicon Glen" boom continues at its present rate. A report, published by the Manpower Services Commission, concludes that the current levels of computer training are probably inadequate to meet future demand and recommends that employers and the various training bodies have a rethink about their training programmes.

It also draws attention to the changing structure of the Scottish computer industry, with a diminishing need for applications programmers, but an increased demand for certain specialist skills, particularly in systems programming and design.

But unemployment among Scottish computer personnel between 1979 and 1981 has tripled.

The report is based on a survey of 373 out of the estimated 440 Scottish computer installations of a sufficient size to employ specialist staff, as well as a survey of 36 computer users. Its aim was to assess whether there is a shortage of computer skills in Scotland, to forecast the trend in demand to 1985, and to examine the implications of these findings for future training both by industry and the MSC.

The industry is growing and should increase by 10% this year. It is estimated that about 3,500 people were employed in computing (programmer upwards) in Scotland in 1981.

Half of the computer installations surveyed reported serious shortages of systems programmers and one third had shortages of systems analysts, designers and analyst/programmers.

# EEC may erect trade barriers

by John Riley

EEC leaders are aiming to erect trade barriers to protect Europe's high technology industries.

The government leaders at the EEC summit conference in Copenhagen reached a series of agreements. These called for regulation of trade to protect the EEC and its new industries from outside competition, and for a decision by the end of March 1983 (the next summit) "on the priority measures proposed by the Commission to reinforce the internal market".

This would mean increased pressure on Japan both to import more European goods and to slow down its exports to the EEC.

The EEC summit is not part of the EEC machinery proper and has no powers of decision. It is a policy body which acts to provide a political impetus, and as such can help define priorities. Its agreements have to go through traditional channels where they can either end up as law or get bogged down.

There are several other agreements. One was on the need to help young people train for high technology – in the words of the official communiqué there was agreement on "creating more employment opportunities and professional training possibilities for young people to permit a fulfilment of their justified aspirations.

"In this connection it is important that they are given a chance to take advantage of the opportunities of tomorrow's high technology industries."

The Council of the EEC should also "speed up the adoption of the Commission's current and forthcoming proposals in the field of research, innovation and energy". These proposals include European programmes such as Insis in information technology.

European new industries and small firms stand to benefit if agreement can be obtained on the Commission's proposal to expand the New Community Instrument by a further three billion ECUs (European Monetary Units). This is specifically for loans to industry and small firms, and the summit urged the Council of the EEC to agree to this by the end of March.

Further details arising from these statements in the official communiqué will emerge as the various agreements are discussed fully in the relevant European committees over the coming weeks.

■ A spokesman from the Japanese Embassy in London commented: "We do not know exactly what decisions were taken. We do not welcome restrictive measures to our trade in principle, but we do appreciate that the increase of Japanese and other imports is causing serious difficulties to the economy of Europe. Japan will do what is possible to give a breathing space to allow Europe to restructure."

*WINT . . . Developed the Kanji character Cobol compiler.*

# Japan buys first Kanji Cobol compiler from UK company

by John Kavanagh

A UK company's work on the world's first microcomputer Cobol compiler to support Japanese characters has paid off with a £190,000 order from a Japanese computer supplier.

Micro Focus, which has done £1.1 million worth of business in Japan with its CIS Cobol over the last 14 months, won the order from Oki Electric Industry. The contract rounded off a year in which Micro Focus almost doubled its revenue from last year's £2 million.

The Oki agreement covers advance royalty payments on up to 3,000 sales of the Japanese version of CIS Cobol on Oki's if-800 microcomputer.

But this could be just the start: over 90% of Japanese business applications systems are written in Cobol.

The Japanese Kanji characters can be used in CIS Cobol for paragraph and data names and literals, the variables made up by the programmer. Cobol reserved words – verbs, data definition and so on – remain in English.

The Micro Focus product can handle all the 6,000-plus Kanji characters as well as Japan's Katakana alphabet used for Western words which are not represented by other existing Japanese characters.

"The most significant feature of this product is that application end users can see Kanji characters rather than a less familiar alphabet," said Ben Wint, who developed CIS Cobol some four years ago. Wint led the Kanji development team, which took just three weeks to complete its work.

Japan accounted for 10% of Micro Focus' business in 1981.

# French air network under fire

by Jack Gee

AIR France is under fire from foreign airlines for persuading French travel agents to accept a network of reservation terminals which will prevent its rivals from proposing their own flights, hotel bookings and other facilities.

The computerised booking network, known as Esterel, will go into service in travel agencies all over France from the end of 1983.

It will be equipped with a specially designed Transac-Alcatel terminal. This has a 15/26 central unit with a 128K Octet memory, a one million character floppy disc, a VS 82,000 character memory and printer for producing both tickets and printouts. The Transac-Alcatel unit can also be used for office records and accounting.

Esterel was presented to the French Federation of Travel Agents at its annual conference in Marrakesh, Morocco. The French computer service firm Sligos showed the travel agents a databank of travel brochure information which it is preparing in conjunction with Esterel.

But foreign airlines spokesmen complained that Esterel will limit travel agents to booking only through Air France's Alpha 3 computer centre at Antibes, Southern France. Travel agents would not be able to access the booking systems of non-French carriers.

An official of a leading European airline said: "Travel agents will be deprived of the possibility of talking to other companies over terminals. Britain's Travicom system allows this. If the French go ahead with Esterel, Britain ought to tell Air France to get out of Travicom."

Esterel will cost about £900 a month to rent.

## SALES BRIEF

### Philips wins $10 million WP deal

PHILIPS has scooped a $10 million order for word processing systems from the US Federal Accounting Office.

The first phase of the five-year contract involves delivery of 150 standalone word processors and 14 P5004 dual workstation shared logic systems at GAO headquarters in Washington, and 21 regional offices.

### Good haul for Aim

DIGITAL Equipment Supplier Aim has landed three orders for accounting systems based on the PDP-11. The orders, worth £91,000, include one from fish sellers Danbrit of Grimsby for vessel ledger accounting, and one from the Goodfellows supermarket group in Hull.

### Revenue switch

THE Inland Revenue has chosen Data Training to provide conversion courses for its applications programmers at the Worthing office, which is changing from ICL to IBM computers. The order, worth £45,000, is Data Training's first contract for IBM training, although it has provided many courses for ICL users in both the public and private sectors during the last 12 years.

### $1.3 million drives

FLOPPY disc drive maker Micro Peripherals has sold $1.3 million worth of 5¼-inch double sided hard disc drives to Prodata, the Belgian maker of business computer systems, through its subsidiary MFI Europe. The drives will be incorporated in Prodata's Series 70 and 72 order entry systems.

### European rights

NETWORK Technology has signed an agreement worth an estimated £10 million for European marketing rights to the IBM SNA communications network made in Australia by Systems Technology. Any Ascii terminal device can be connected into an SNA network by Systems Technology 3703 gateway, which costs a typical user about £10,000.

### Service contract

UK service company Nexel has won a two-year £100,000 contract to service the microcomputers, terminals and printers made by Shelton Instruments. Nexel will service the Signet 2 range of microcomputers launched at Compec 82, the Shelton 200 series and the 1000 range.

### Prime upgrade

PRIME Computer UK has netted a £510,000 order for its twin 850 system from Citicorp International Bank. The system upgrades the bank's existing Prime 400 equipment, and the increased processing power will run a real time dealing program for European securities.

### Telecentres

ELECTROLUX has ordered six R2800 Telecentres worth £380,000 from Rediffusion Computers. The order includes six R2860 processors with discs, videotex terminals, VDUs, ICL communications, and videotex system software.

### Harris success

HARRIS SYSTEMS has sold a £42,000 information processing system to Grantham-based Aveling Bedford, a subsidiary of British Leyland. The Harris 9200 replaces an IBM installation.

### Optical fibre deal

GEC subsidiary Telephone Cables has won a £1 million contract from British Telecom to supply a [illegible] optical fibre cable between Lichfield, Staffs and Ashbourne, Derbyshire, by mid-1983.

*Softly, softly new technology enters newspaper offices.*

# Journalists go online in IoW

by Philip Hunter

THE Isle of Wight Weekly Post is the first UK newspaper to persuade its unions to accept stories written and edited by reporters online at a computer terminal. The paper has agreed in principle with the National Union of Journalists and the National Graphical Association to a three-phase computerisation.

"We couldn't get the NGA nationally to go the whole way, so we had to adopt a phased approach," says Peter Thompson, associate editor of the 102,000 circulation Portsmouth Evening News, which will follow its sister Isle of Wight Weekly into the first phase next year.

The NGA gives the three-phase scheme a muted welcome. "The unions have always co-operated with the application of technology, but we are still to be convinced of the full merits," says a spokesman.

Only the first phase has been formally agreed by the NUJ and NGA. This replaces typewriters with video terminals for reporters, who write the stories, correcting them as they go along with a word processor. The finished article then goes down a telephone line to a Digital Equipment computer in Portsmouth, from which it is printed out.

Sub-editors then cut, correct and write headlines for the stories by hand, as usual.

The only other UK newspaper to go this far is the Nottingham Evening Post, which as early as 1978 introduced terminals into its editorial office. But the difference is that there was a long fight with unions resulting in a completely non-union paper.

The second phase, scheduled for implementation in September 1983 at the Portsmouth papers, will bring the sub-editors online as well. The final stage three, provisionally agreed to begin in March 1985, will bring terminals into the photocomposition room. News copy will then be set by journalists and go straight to the bromide sheets for printing.

The technology for full computerisation has been available for several years, and has already been implemented by many newspapers in other countries, especially in the US. But union resistance means that the UK will have to wait.

# '£150 million market in UK' for Datapoint's new portable terminal

by Andrew Thomas

DISTRIBUTED processing specialist Datapoint has launched a new portable terminal – and didn't pay a penny towards its development.

The terminal has been designed and built by Reading-based Portable Computer Terminals, a six-man operation headed by ex-Datapoint sales manager Hywell Evans.

PCT was set up in January with £1 million of venture capital from the City, raised by Evans.

Taking six of Datapoint's staff, Evans formed the new company, which has received no financial backing from Datapoint itself. There is not even a Datapoint presence on the PCT board.

But now that the terminal is in production, Datapoint is handling all aspects of marketing and support and, according to managing director Brian Gifford, is headed for a market of 60,000 units, valued at £150 million, in the UK alone.

The terminal is aimed chiefly at the van sales market, where salesmen visiting retail outlets can use it to keep track of prices, orders and stock, and produce a printed invoice on the spot. Application programs are down-line loaded from a central computer, and details of transactions handled by the device can be returned there by telephone line.

A four-line, 128-character LCD display is incorporated in the device, which can run for up to two weeks on a single charge, and weighs only 4½ pounds. Should Evans' prediction of 1,000 units sold in the next 12 months come true, production will be set up in the enterprise zone at Swansea.

"It could mean at least 40 new jobs," says Evans. "We have had promises of more than £450,000 in development aid, and offers of effectively rent-free factories for seven- or eight-year periods."

Priced at about £2,000, depending on quantity, the terminal has been designed around Datapoint's Databus language, although Evans says that other manufacturers' hardware can be accommodated.

"We didn't even look at anyone else to do our marketing for us," he says.

*GIFFORD . . . Heading for a market of 60,000 units.*

### Information Technology Year was given an official farewell last week at London's Barbican Centre . . . Kevan Pearson reports

# End of IT82 'just the beginning'— Thatcher

*The Prime Minister used some of IT to get it across to an audience dominated by individuals from the computer industry.*

INFORMATION Technology Year is not over, but IT82 had its official farewell last week at the Barbican Centre in London.

The occasion was what the organisers, Online Conferences, were undoubtedly delighted to describe as "IT82 The Conference" and offered a bevy of stars from British public life, debates, speeches and a 900-strong audience (invitation only but if you asked in advance you could get one) mainly made up of familiar faces from the computer industry.

The Prime Minister gave the keynote speech and had decided to take the safe course of addressing herself to Christmas present, leaving the guesses as to Christmas future to the industry professionals.

This was not only astute, but allowed Margaret Thatcher to concentrate on what was, after all, a great deal of her own show. She had appointed the first Minister for Information Technology, Kenneth Baker, and had authorised the funding of IT82, the programme to make the country aware of it.

Thatcher said: "This is not the end, it is just the beginning," and added that "the hardest task lies before us." This was the "harnessing of British genius as we have in the past." She made no mention of the Alvey report on the UK's response to the fifth generation challenge by Japan.

She then praised famous men, the organisers of IT82, and famous companies, the British electronics industry, pointing out that the UK was the first country in the world to put a microcomputer in every school, and asked for "Applause please, we're British."

But the second speaker, Vicomte Etienne Davignon, vice-president of the European Commission, begged to disagree with the Prime Minister, at least to add that we were all European as well. His call was for a European information technology industry.

He said: "The world market for IT products is now about $237 billion and growing at eight per cent a year in real terms. The IT industry in Europe employs five per cent of the European workforce, amounting to five million people. But 65% of the total workforce, is being affected by what they produce," he told the conference.

Davignon said there was plenty of scope to increase employment in IT, but the only way this could be achieved was through "collaboration and co-operation" between the 10 members of the EEC.

"Europe is not a very pleasant photograph for IT compared to the United States and Japan. The most significant indicator of the current problem is that taken as a whole the return on sales of European-based IT companies is just over 2.5%, which is only two-thirds that of the equivalent industry in Japan. The average in the US is double that of Japan."

The result of this, he said, was lower spending by European companies on R&D and marketing, with a resultant slide in market share.

"A loss of market share of one per cent a year, given that we only have 15% of the market ad that our national market is 30% of the world market, will have very serious consequences for economic growth in Europe," he explained.

He added that Europe's declining share of the world market had led to a reversal in our balance of trade in IT products, from an overall surplus in 1975 to a deficit of £2.5 billion in 1980.

Davignon went on to what was to be the conference's favourite theme – the impact of IT on jobs. He started on an optimistic note: the IT boom could create at least a further two million jobs, one million each in manufacturing and the services.

But the sting was in the tail: far from creating these two million more jobs, "present indicators suggest that a further two million are at risk in the industries most affected by the application of IT."

This topic was returned to, both by members of the audience and by the panellists. And it was not just the union elements at the conference – in the shape of Tim Webb, of ASTMS, Terry Duffy, general secretary of the AUEW, and Roger Darlington of the Post Office Engineering Union. Such people as Professor Tom Stonier of Bradford University, and Philip Hughes, chairman and founder of the Logica Group, both expressed concern on the impact of IT on employment, as did David Fairbairn, director of the National Computing Centre.

"IT needs to get to grips, as an industry, with the problems of employment – the restructuring of work – not just the palliatives of job creation," Hughes told the conference.

"We need a radical change in the way we do things. I was sorry to see that the Prime Minister did not make any reference to adult education. This is absolutely vital and we must be prepared to put immense funds into this area."

Fairbairn took up the point: "The conventional wisdom on employment must be challenged. I cannot accept that opportunities for employment do not exist. They do. But they aren't being taken up. That is an organisational problem which must be overcome."

The problem, as Hughes and others later made explicit, is that the jobs which will be needed following the much-vaunted information technology explosion, could be in the public sector such as health care and education; or they could be in the entertainment sector.

Terry Duffy was the main speaker in the "Must There be Winners and Losers?" debate. His answer was simple. "That depends on what decisions are made and who makes them.

"I have a firm commitment to IT. Britain must spend more on IT in order to be competitive. We do not take a negative view of IT because we know that the future hopes of the British economy depend on IT. But our acceptance of IT is not unconditional."

Failure to accept new technology would sabotage our future,

*DUFFY . . . . "Our acceptance of IT is not unconditional".*

but new technology should serve society, not the other way round.

He supported his point with the harsh fact that in the computer and electronics industries 8,000 jobs were lost in 1981 alone, yet this was supposed to be where jobs were being created. "Growth in IT will mean fewer hours of work being available for everyone."

His answer to this – and the answer given by many others during the two days – was a reduction in the working week, with "more genuine leisure time available to everyone, not the enforced idleness of the dole queue."

Clive Latimer, manufacturing director of Mars Electronics, of the Mars Industries Group, was given the task of responding to Duffy's interesting and entertaining speech.

Latimer's theme was that as the "industrial era draws to a close, the concept of work will probably die with it.

"This means changing the way we see work and ridding ourselves once and for all of the 'work ethic.' Education is an end in itself, and a lifelong experience," he said.

"The industrial society created the concept of work and failed to live up to it."

It was left to Ken Barnes, the IT82 project director, to sum up the achievements of IT82. But he was given only 15 minutes, not exactly a surfeit of time in which to describe a whole year's achievements.

Help had been at hand though, in form of a MORI poll on information technology, showing a massive increase in the general awareness of the term IT. Awareness jumped from 17% in a similar poll commissioned at the end of last year to 62% now. Unfortunately the number of people who claimed to know a "fair amount about IT" had only increased to six per cent.

Ken Cure, an AUEW official, pointed out that understanding what IT means is what counts, not merely being aware that the term "Information Technology" exists.

The poll showed that though many more people were aware of the idea, the number of people who held favourable views of IT was the same, at 35%, as last year.

Interestingly, trade unionists thought more favourably about IT than did non-trade unionists.

A separate survey of business attitudes showed a favourable response – 94% thought it would make business more productive and 87% thought it would make UK companies more competitive, while 58% thought it would generate further unemployment.

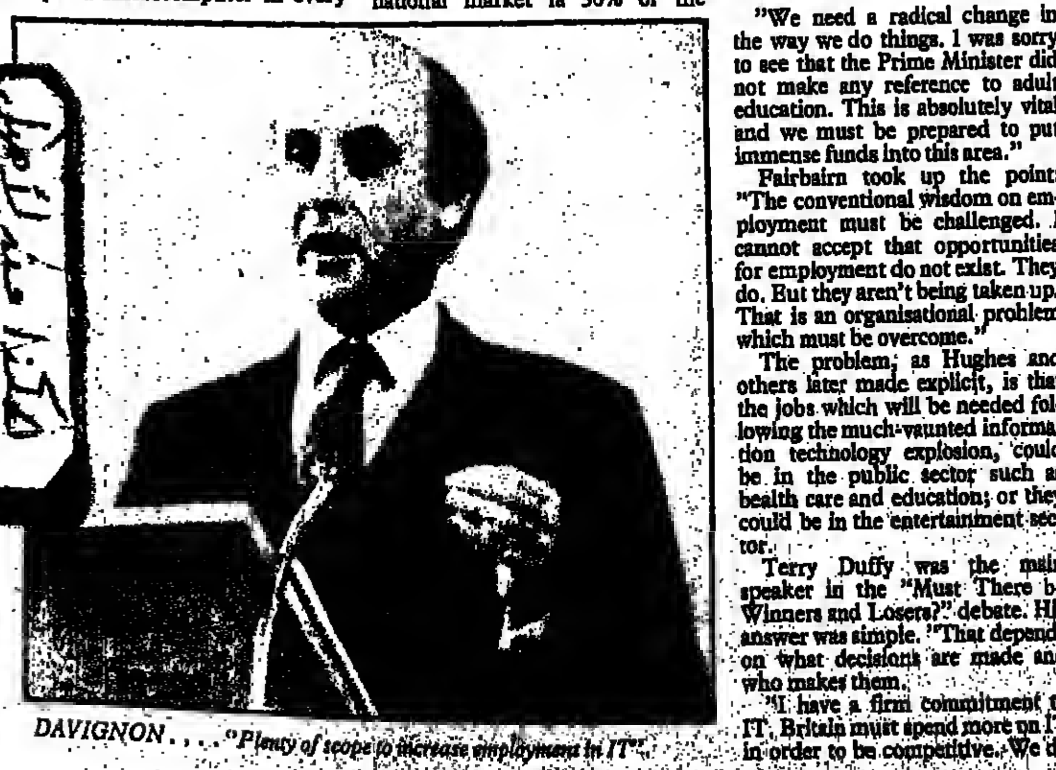
IT Minister Kenneth Baker closed the debate, and the conference. His speech held more solid material than Thatcher's – he even mentioned the Alvey Committee and its report and said the Department of Industry would be responding to it in the New Year.

He also said that he had noted what had been said during the first day about the need for adult education: "There is no doubt that the sheer speed of change which technology is bringing upon us will mean that throughout our lives there will be a need for training and retraining and our systems must recognise and respond to that need." He also noted that the work component in society was likely to decline relative to leisure and education.

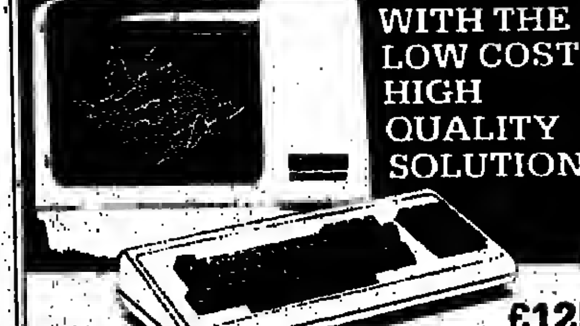
What he did not add was how we are to deal with this. Much of the talk during the two days was about how we are not dealing with the change effectively at the moment.

The point was hammered home time and time again that we need radical changes in society in order to be able adequately to take advantage of the potential benefits that the "information era" will bring. What was missing was a constructive input – or even response to the points raised – from the politicians present.

It remains to be seen what form the ghost of Christmas future will take.



*DAVIGNON . . . . "Plenty of scope to increase employment in IT".*



# Conversion needs experienced staff

by George Black

DON'T undertake a conversion without a proper plan, or using inexperienced staff, DASD's Tom Patti advised a user workshop.

DREYFUS . . . *"Restricted by huge investment in existing software."*

"Would you try to install a major, brand-new system without a plan using junior personnel? Then why even consider doing a conversion that way?" said Patti.

He was speaking at the first of a series of IAL Gemini workshops in London's Barbican Centre, entitled Data Processing Conversion with No Surprises.

Most managers hated the very word conversion and viewed the process as traumatic, disruptive, expensive and unending, he said. But it did not have to be such an uncontrollable leap in the dark.

His prescription for overcoming the problems was to have a thorough survey in advance. "You have to get very definitive about where you're coming from and where you're going. Talk to your people about how you are going to do it."

It was important to list not only the programs, files and jobs to be converted, but also those which would not need to be converted. The number of lines of code involved was not a safe basis for assessing the scale of the task. More important was to make sure all the source code was available before starting and to track the data flow. Documentation should not be included as a part of the operation, but should be tackled separately.

The workshop organiser, IAL's managing director, Jeff England, said 10% of expenditure in the data processing industry was now devoted in some way or other to the conversion of systems.

Philippe Dreyfus, vice-chairman of CAP-Gemini-Sogeti, said that computer systems which had seemed to reach a stable basis in the early Seventies had now dramatically changed tack and many departments found themselves restricted by their huge investment in existing software.

Patti is vice-president of DASD, the American company acquired last year by CAP-Gemini-Sogeti, France's leading software firm. IAL is the UK company in the CGS group, in which British Airways is the majority shareholder.

# Key to relational databases

**THE major deficiency in existing relational database systems is the lack of support for primary and foreign keys. This is the view of Chris Date, advisory programmer to IBM in California and author of a new book, An Introduction to Database Systems.**

**Date told a Pergamon State of the Art seminar in London that no one had yet done a good job on the matter of keys, though Nomad and other systems were moving in the right direction.**

**The book tackles eight topics concerning databases, superseding Date's previous work.**

**Date warned delegates to the seminar that some older systems of dealing with the problems of concurrency had now been proved to be theoretically incorrect. Locking mechanisms to ensure that several concurrent transactions did not clash were not always perfect, he said.**

**Statistical databases could sometimes be penetrated by people who were not entitled to access and who could gain detailed information where only a general abstract was supposed to be available.**

# Colour graphics takes to road

COLOUR graphics go on the road this week as a Sperry Univac team sets out to demonstrate its latest addition to Mapper software.

Putting the VDU in the back of a Cortina, the three-man team from North London is to tour the country introducing the system to outside users as well as the company's own people.

The 16-colour business management system will be mounted on an Intecolour 8001R high resolution terminal made by Techex and marketed in the UK by Intelligent Systems Corp.

The real time system's graphics extension was unwrapped in the US in the autumn and is to be available here in the first quarter of 1983.

Non-computing users will be able to learn how to produce their own pie charts or bar charts from raw statistics. And executives can doodle to edit the company figures in an easily digestible format.

The Mapper is so organised that it can be handled at various levels of competence from complete novices to machine code experts. And for less disposable data a hard copy Hewlett-Packard plotter can be attached.

The acronym stands for Maintaining, Preparing and Producing Executive Reports, but the emphasis is now on turning the art of report generation into a more aesthetic process.

# Unix tool comes to UK

A UNIX version of a successful American design tool is to be available in the UK from January.

PDL/81 is the Unix version of PDL which has had considerable success in the US running on IBM mainframes and Digital Equipment PDP-11s. Under Unix the product will run on DEC PDP-11 and Vax, and 16-bit micros such as the Onyx, Zilog and Altos machines.

WP Computers of Stevenage has been awarded the exclusive UK distributorship for PDL/81, which is claimed to cut development times by as much as 30%.

"The benefits are astounding, as we have found out by using PDL," said Graham Evans, managing director of WP Computers.

# Chip-making equipment for Edinburgh University

WHAT may be the most advanced piece of chip-making equipment in Europe is to be delivered to Edinburgh University in February.

The university's micro-fabrication facility — an offshoot of the electrical engineering department — is to get an Eaton wafer stepper at a cost of about £600,000 on a grant from the Science and Engineering Research Council.

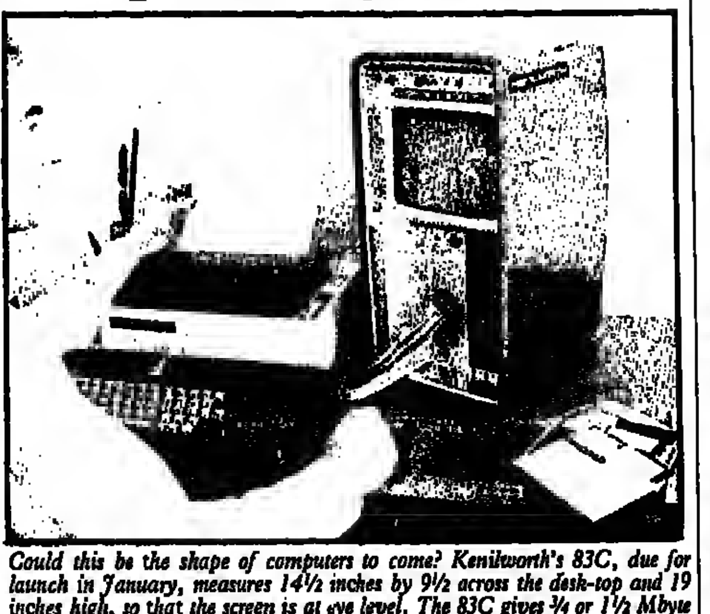
This means that Edinburgh will be able to supply chips to other British universities which are working in the same research field.

Edinburgh has now received £2.5 million out of a total programme of £7.5 million to be spent on chip research by SERC over the next four years.

The optimetrix 8010 wafer stepper, made by Eaton Semiconductor Equipment Operations in the US, will give the university the most advanced optical techniques available for integrated circuit production. Dimensions as small as one micron per circuit can be printed.

"The apparatus is in the forefront of technology," said a SERC spokesman.

# Shape of things to come?



*Could this be the shape of computers to come? Kenilworth's 83C, due for launch in January, measures 14½ inches by 9½ across the desk-top and 19 inches high, so that the screen is at eye level. The 83C gives ¾ or 1½ Mbyte disc capacity with 64K RAM. The 83CG model offers graphics with a colour monitor connector.*

# Half-height mini Winchester

A LEAD to cut the size of desk-top computer systems was taken with the curtain-raising of new storage products by Shugart at the Las Vegas Comdex show. The company followed its announcement of a 3½-inch microfloppy disc drive with a new half-height 5¼-inch rigid Winchester drive.

There are two models: the SA 706 with 6.67 Mbytes of unformatted store on one platter, costing $550 in OEM quantities, and the SA712 with 13.3 Mbytes on two platters.

# Rosen follows the Osborne route

by Julian Allason

THE landing at Las Vegas was not a smooth one. Up and down the aircraft visitors to the Comdex show clutched their stomachs and their Osborne 1s.

Inside the vast convention centre the story was the same — portable computers everywhere. Many of the new offerings tipped their hats in the direction of IBM, the supremacy of whose Personal Computer is now well established as the touchstone by which others are judged.

The new DOT portable from Computer Devices of Burlington, Massachusetts, went all the way with the same 8088 microprocessor and MS-DOS operating system as the IBM Personal. Priced at $2,995, the standard DOT has two 3½-inch Sony drives offering 570 Kbytes of micro floppy storage, 9 x 5in bit-mapped display and 32 Kbytes of user memory expandable to 705 Kbytes of continguously addressable RAM. For an extra $1,000 the company will supply a model that incorporates its own 132-column matrix printer. An eight-bit Z-80 CPU will also be available as an option.

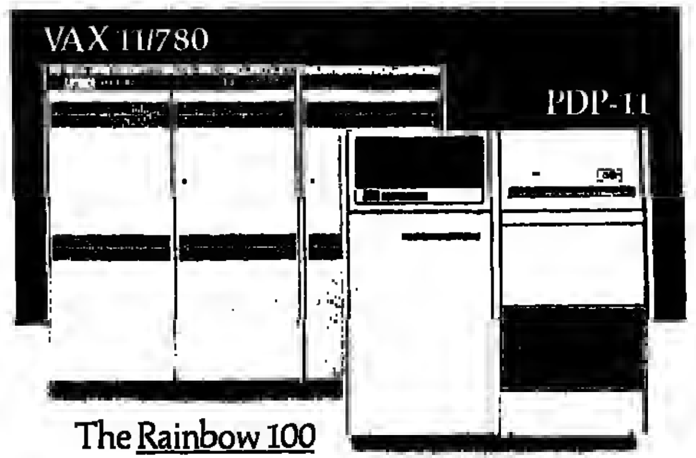
Another company claiming a first in the IBM PC-compatible field employed a rather different approach. Colby's PC-1 is a kit that converts the standard IBM PC into a portable computer, weighing 26 lbs. For $899 the PC owner gets a 9in diagonal high resolution display, switching power supply and interface boards housed in an aluminium and plastic case.

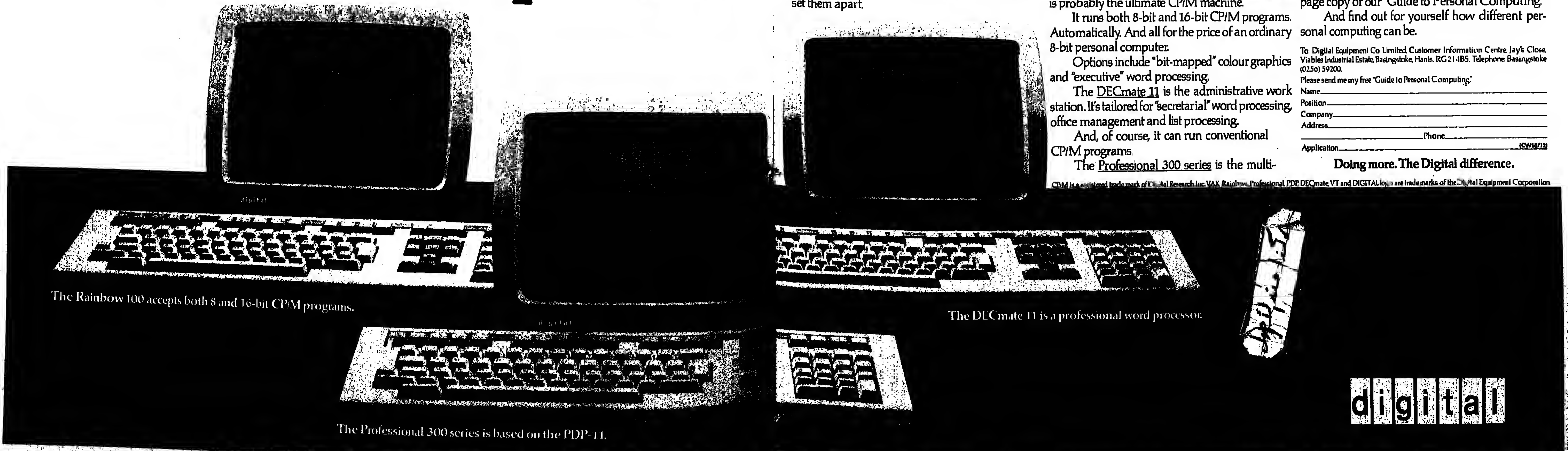
Another industry pundit following Adam Osborne's route into microcomputer manufacture is Ben Rosen, who made his name as author of the weekly Rosen Electronics Letter. Rosen's venture capital company is the principal backer of Compaq Corp, which showed its own 16-bit IBM-compatible portable computer. In January Americans will be able to buy the 8088-based unit with 128 Kbytes of RAM, 9in diagonal high resolution CRT and 320K 5¼in minifloppy, for $2,995.

Most portable manufacturers harbour plans to incorporate the new microdrives, of which 3in, 3¼in and 3½in formats were all to be seen at the show. Most manufacturers have now dismissed the idea of incorporating 5¼in Winchester drives into their systems. "Too sensitive to temperature, humidity and vibration; in fact unreliable all round," according to Ron Lingeman, president of portable micro maker Otrona.

Two vendors, Kaypro and Jonos Computer, have nonetheless taken the plunge. The Kaypro 5 with a 5 Mbytes drive will go on sale shortly in the US at $4,485.

The most truly portable system was the Teleram 3000 Office Station, about the size of a 3in. thick A4 pad and weighing 9 lbs. For mobile use the system has a four-line 80-column LCD display, 64 Kbytes of RAM plus 128 or 256 Kbytes of non-volatile bubble memory. Power is provided by rechargeable lead acid batteries with a five-hour life between charges.





# Billion francs boost for CII-HB

by Jack Gee

CII-HONEYWELL BULL, the French State-controlled computer firm, is to receive an urgent injection of one billion francs (£85 million) before the end of the year.

*STERN . . . Waits for guidelines.*

But it still awaits clear guidelines for future industrial strategy from the government.

Jacques Stern, chairman of the company in which Honeywell retains a 20% stake, has been told he can expect a further payment of the same amount in 1983 to ease a critical financial situation.

But the State funds are unlikely to be adequate to lighten a debt burden of FFr 8 billion (£720 million).

Debt servicing alone will account for FFr850 million (£75 million) out of CII-Honeywell Bull's forecast losses of FFr 1.3 billion (£115 million) this year.

While rumours circulate of the replacement of chairman Stern, former head of the successful SESA software house, by Gerard Thery, former head of French Telecom, Stern is encountering all the disadvantages – but few of the advantages – of State control.

One-and-a-half years after the present government's arrival in office the much-vaunted five-year electronics and computer plan has still not been drafted.

But CII-Honeywell Bull is being saddled with heavy new financial responsibilities without knowing what industrial benefits it will derive from these.

The company's principal shareholder, Saint Gobain, which was nationalised in February, has been told to get out of the electronics and computer industry and return to production of glass and steel castings, its traditional role until five years ago.

But a new financial partner for CII-Honeywell Bull has yet to be chosen. Meanwhile a number of curious decisions have been imposed on the firm by Jean-Pierre Chevenement, Minister for Industry and Research.

SEMS, the minicomputer subsidiary of Thomson-CSF and Transac, a terminal manufacturer which was part of Compagnie Generale d'Electricite, is being taken over by CII-Honeywell Bull. Both these ventures are in parlous health with losses estimated at over FFr200 million (£17.5 million).

But CII-Honeywell Bull has been told that it will not acquire another Thomson-CSF subsidiary, CIMSA, which manufactures military minicomputers – and also make profits.

# . . and it plans to set up smart card firm to stay in the lead

CII-HONEYWELL BULL is setting up a new subsidiary to handle development of memory cards to consolidate a lead of between 18 months and three years in this promising field of technology.

Herve Nora, 38-year-old former head of French Telecom's Telematics Division, which spearheaded the launching of Teletel, France's interactive videotex system, on both the domestic and export markets, will head the new venture.

Nora is a graduate of the elite Polytechnique School which produces France's most brilliant engineers and managers, and of Massachusetts Institute of Technology.

His first task will be to persuade France's banks, broadcasting authority and other government organisations to introduce the "smart card" on a big scale into their own operations.

By "reconquering the home market" – a popular catch phrase among French government politicians and officials nowadays – Jean-Pierre Chevenement, Minister for Industry and Research, is confident that promising opportunities lie ahead for export sales.

CII-Honeywell Bull, Philips and Flonic-Schlumberger are at present competing for a massive order for "smart" banking cards designed for use at point of sale terminals and cash dispensers and in telephone boxes.

Cards and terminals have been supplied and are now operating in three French cities. Blois in the Loire Valley has been equipped by CII-Honeywell Bull, Lyons by Flonic-Schlumberger and Caen, Normandy, by Philips.

Industrial sources say it is almost certain that CII-HB will be the government's final choice after the current trial is completed.

CII-Honeywell Bull's card is also being tested in the US by First Bank of Minneapolis. Farming customers have been supplied with cards for use in their own homes with terminals equipped to perform electronic payments transfer operations.

France is particularly proud of its work on the smart card which was first patented over 10 years ago by Roland Moreno, a young computer engineer who had been working on PROM chips.

When France's fourth television channel comes on the air about a year from now, it is planned that viewers will pay for their programmes with "smart cards". These will be scanned by readers attached to their TV sets.

# Ferranti shares drop 11p

by Philip Hunter

FERRANTI will be disappointed at City reaction to its interim results. The figures seem quite good on the surface at least, with profits of £11.8 million up 25% on the corresponding six-month period ended September 1981.

Yet publication of the figures was promptly followed by an 11p dive in the shares to 442p. The reason is partly that the Ferranti figures do not look quite so good on close scrutiny. The City does not react to bare profit figures, but to profit and loss related to expectation.

Seen in this light, the figures look decidedly shaky, since Ferranti is said to be looking for a profit of £30 million for the full financial year. This would put its shares on a price to earnings ratio of 24 after tax.

To achieve this target, profits have to increase by 50% to £17.8 million in the next half. Although Ferranti sold better in the second than in the first half of 1981, this seems unlikely. Or so the City thinks.

*BASIL de FERRANTI . . . His 25% boost in profits disappointed the City.*

There will have to be considerable improvement in the next half simply to keep pace with inflation, since the interim profit just announced is only half the £23.6 million of the last full year.

Although Ferranti shares are unlikely to gain anyone a fast buck, they remain an attractive long-term investment as the company consolidates in electronics applications.

Heavy investment in electronics, avionics, computer systems and instruments has already improved trading margins, from 6.8% to 7.6% last year. There were also several promising acquisitions, new subsidiary launches and tie-ups in 1982, which should improve profits in a few years.

The US subsidiary Inter-Design proved a useful springboard with the recent takeover of two companies in the Eastern states. New companies have been launched in California and Indiana, as well as in Hong Kong.

*MILLS . . . It's easier to get cash if you've done your homework.*

# Young company takes the old fashioned route to high-tech

by Ron Coates

IT sometimes pays to be traditional when raising cash for your high technology dream if the experience of Modular Office Systems of Winchester is anything to go by.

For when the now year-old company went looking this spring for cash it found a bizarre reception from the high technology venture trust industry. And when it finally turned to the traditional style of City institutions it found an intelligent reaction and quick response.

MOS director Jim Bennett described the search, which lasted seven months: "What you don't realise when you start to trundle your baby around is that a lot of the high technology venture trusts are interlocked – when you are turned down by one, the doors are automatically shut in others.

"The first we found that seemed to be interested insisted that all the directors take a series of psychological tests over three weekends at the Cranfield Institute of Technology."

Bennett does not have many good words for this company which he refuses to name, and reckons that it used up a lot of time and energy.

The City reception, organised by consultant Brian Mills, was somewhat different. MOS got its agreement for £650,000 within five weeks, with British Technology Group, TR Technology Trust, United Computer and Technology Holdings and Taran coming up with the cash.

Bennett said: "There you were talking to the man who could make decisions. One of them did it overnight. It was a painful experience until we met the City."

Mills commented: "Two things attracted me; the people and the product. They had done their homework. They had a business plan and it fitted together and made sense. This is rare with British companies."

# Poor profit figures at Zygal

by Philip Hunter

RAW profit figures do not always tell the whole truth. So argues Con Driscol, Zygal chairman, explaining his company's poor first-half profits.

Turnover was on target, advancing 23% from £1.11 million to £1.37 million, but pre-tax profits fell from £116,000 in the first half last year to just £34,000.

Several reasons are put forward for the profit shortfall. The main one is the acquisition in October of Modular Technology, which cost about £50,000. This has been followed by the opening of retail premises in the City for selling the ranges of printers that Zygal distributes.

Zygal's main business has always been in distribution of printers, but recently the company has diversified into personal computers. The poor profit figures are undoubtedly sweetened by the acquisition of the Hewlett-Packard distributorship for pocket calculators, the new Hewlett-Packard hand-held computer which sells at £750, and the HP86 microcomputer.

Zygal was one of five UK distributors to be appointed by Digital Equipment in February in its ATD, Authorised Terminal Distributor, programme. This has not yet proved as successful as hoped, since many other UK distributors are still selling DEC equipment either from existing stocks, or obtained elsewhere.

But the company points out that the DEC arrangement puts Zygal in a strong position for distributing the DEC personal computer when it becomes available.

## SHARES TABLE

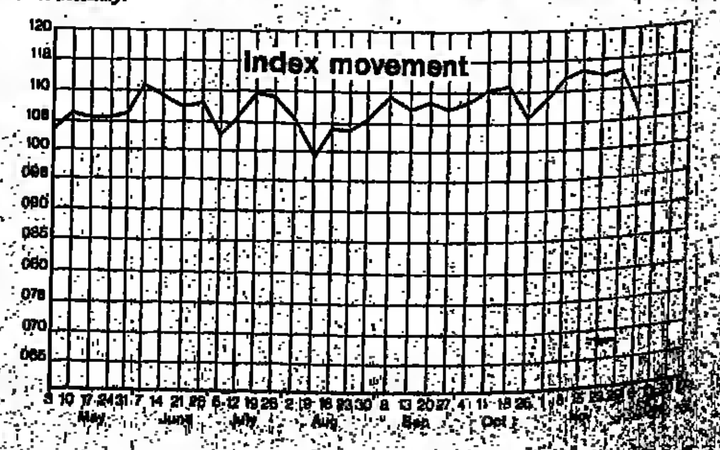
*The shares table, which is specially compiled for Computer Weekly, shows selected computer companies that reflect the state of the computer industry.*

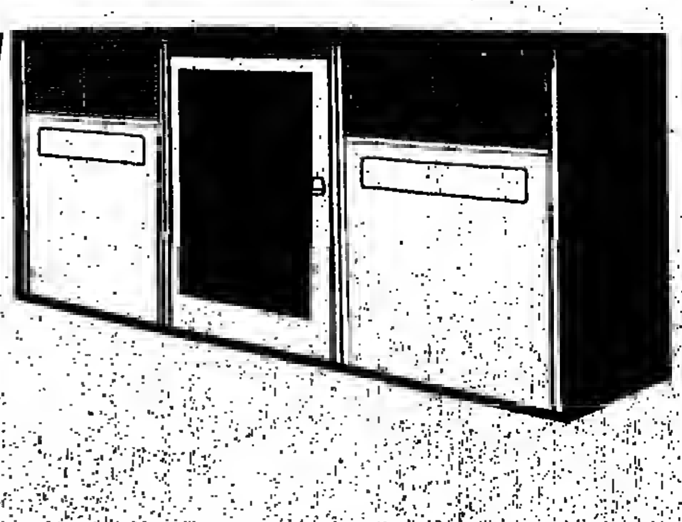
Date 10/12/82 Index 108.96 Change −1.82

| Pence 1982 High | Pence 1982 Low | London Stock Exchange Stock | Pence Price | Pence C'nge |
|---|---|---|---|---|
| 258 | 161 | ACT (App Comp) (25p) | 258 | − 1 |
| 199 | 150 | BOC Intl (25p) | 173 | − 4 |
| 45 | 16 | B. Bov Kent (25p) | 43 | − 2 |
| 127 | 101 | Chubb (20p) | 116 | − 4 |
| 148 | 45 | Cole Group (25p) | 128 | −22 |
| 303 | 180 | C.A.S.E. (20p) | 185 | −16 |
| 730 | 445 | De La Rue (25p) | 650 | −15 |
| 350 | 235 | Extel (25p) | 275 | − 3 |
| 494 | 312½ | Ferranti (50p) | 427 | −30 |
| 249 | 169½ | GEC (25p) | 198 | − 8 |
| 95 | 33 | ICL (25p) | 75 | −10 |
| 47 | 35 | Kalamazoo (10p) | 38 | − 1 |
| 330 | 223 | Kode Int (25p) | 320 | −10 |
| 318 | 216 | Memec (10p) | 285 | −30 |
| 182 | 110 | Muirhead (25p) | 188 | −16 |
| 440 | 218 | N'market (1981) (9.05) | 440 | +17 |
| 962 | 570 | Norsk Data | 962 | +147 |
| 470 | 250 | Office & Elect (25p) | 250 | −10 |
| 630 | 445 | Philips Lamp (Fl 10) | 630 | +10 |
| 642 | 348 | Plessey (50p) | 579 | −28 |
| 97 | 29 | Quest Auto (10p) | 37 | − 8 |
| 607 | 363 | Racal Elect (25p) | 542 | −22 |
| 283 | 171 | Rediffusion (25p) | 225 | − 6 |
| 258 | 180 | Star Comp (10p) | 240 | − 2 |
| 488 | 360 | Thorn-EMI (25p) | 416 | −28 |
| 116 | 74 | UCST (50p) | 116 | +17 |
|  |  | Unlisted Securities Market |  |  |
| 90 | 62 | Bus Comp (10p) | 68 | – |
| 205 | 79 | Consult (C&F) (10p) | 150 | – |
| 194 | 180 | Int'europe Tech (20p) | 183 | − 8 |
| 252 | 246 | Io Tech (25p) | 247 | − 3 |
| 60 | 35 | Knight (5p) | 38 | − 8 |
| 216 | 205 | Micro Bus (10p) | 200 | −16 |
| 168 | 113 | Miles 33 (10p) | 136 | + 8 |
| 170 | 65 | NMW (£1) | 160 | − 7 |
| 128 | 43 | Rolfe & Nolan (10p) | 80 | −14 |
| 120 | 78 | ScanData (10p) | 106 | – |
| 106 | 80 | Trident Comp (10p) | 85 | − 8 |
| 118 | 78 | Zygal Dyn (5p) | 85 | – |

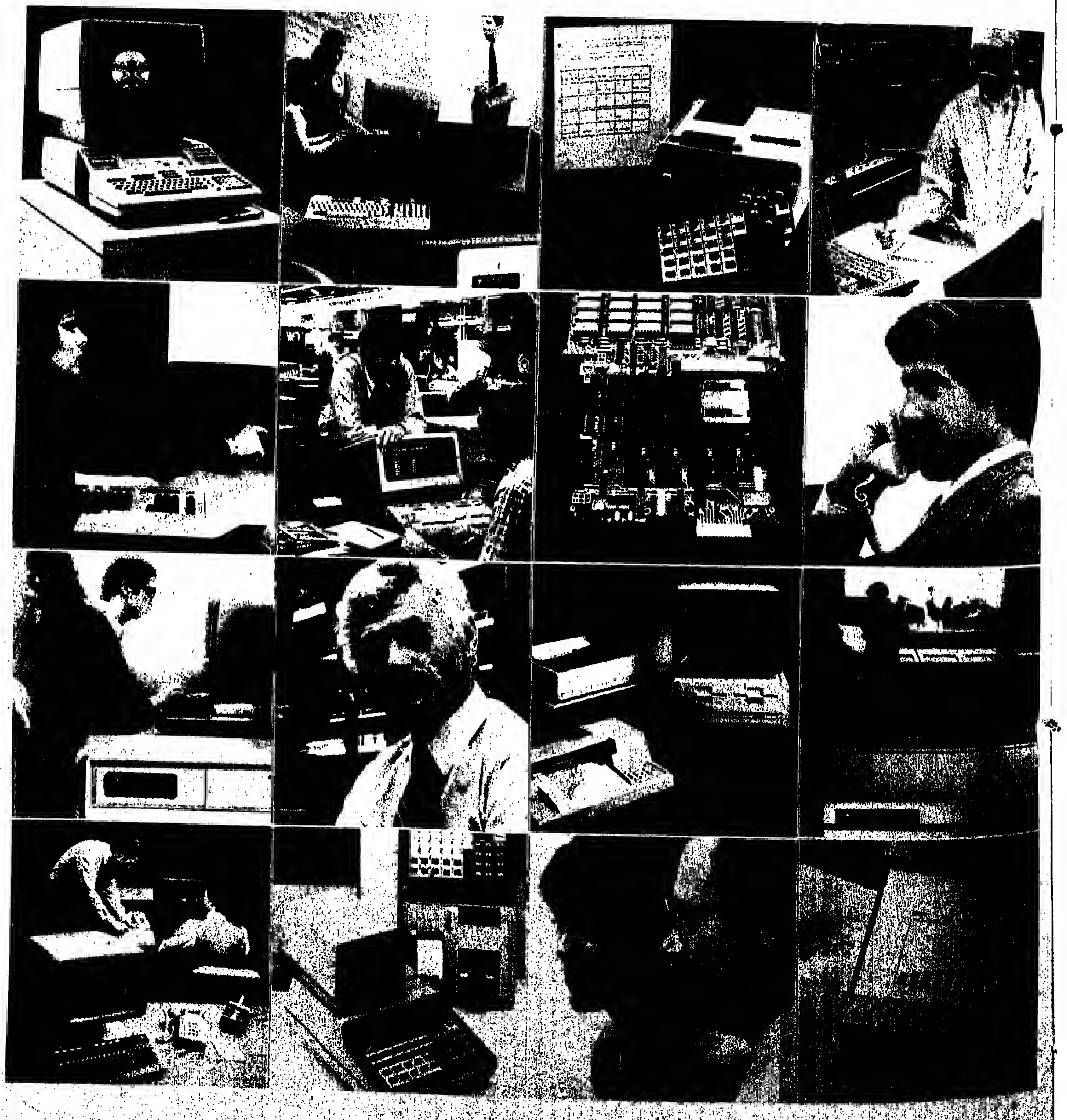
| $ 1982 High | $ 1982 Low | US Stock | $ Price | $ C'nge |
|---|---|---|---|---|
| 33 | 18 | Amdahl | 30 | − 1½ |
| 32 | 11¼ | Apple Inc | 31½ | − ½ |
| 80½ | 21 | Auto Data Pro | 38¾ | − ¼ |
| 46¾ | 30½ | Burroughs | 43¼ | − 1½ |
| 17 | 7¾ | Comp Auto | 17 | + 1¼ |
| 19½ | 11¼ | Comp Sciences | 19½ | – |
| 16½ | 8½ | Comshare | 12 | – |
| 41½ | 22 | Control Data | 39¾ | + 1¼ |
| 44 | 21½ | Cray Research | 44 | + 3 |
| 53¼ | 20¾ | Data General | 39½ | − ½ |
| 49½ | 11¾ | Datapoint | 20 | − ½ |
| 33 | 16¼ | Dataproducts | 33 | + 3 |
| 107¾ | 62¼ | Digital Equip | 107½ | + 3 |
| 48 | 19¾ | Elec Data Sys | 47½ | − 1½ |
| 6¾ | 3½ | Gen Automation | 6¾ | − ⅜ |
| 38¾ | 22 | Harris | 36½ | – |
| 78¼ | 36¾ | Hewlett-Packard | 78¾ | + 2 |
| 103¾ | 61½ | Honeywell | 99¾ | − 1½ |
| 40 | 20¾ | Intel | 36 | − 2¾ |
| 93½ | 57 | IBM | 93½ | + 6¼ |
| 60¼ | 36¼ | Litton Ind | 48¼ | − 1¼ |
| 16¼ | 9¾ | MDS (Mohawk D) | 16½ | − ¼ |
| 42 | 16 | MSA (Mgmnt Sci) | 41½ | − ½ |
| 16⅛ | 7¾ | Mngmnt Assist | 11½ | − ¼ |
| 12½ | 6⅞ | Modular | 12½ | + ¾ |
| 88½ | 50¾ | Motorola | 86¾ | − 2¾ |
| 24½ | 14 | National Semi | 23 | − ½ |
| 91¼ | 40½ | NCR | 89¾ | − 1½ |
| 31¾ | 17¼ | Perkin-Elmer | 29 | − 2¾ |
| 37½ | 16¼ | Prime | 36¼ | − 1¼ |
| 48½ | 28¾ | Raytheon | 46¼ | − ½ |
| 26¼ | 14 | Signal | 22½ | − ½ |
| 34 | 21 | Sperry Corp | 33¼ | − ¾ |
| 34½ | 16½ | Storage Tech | 23½ | − 1¼ |
| 31¼ | 16¼ | Tandem | 24¼ | − ½ |
| 55¾ | 23¼ | Tandy | 50½ | − 1¼ |
| 140¼ | 70¾ | Texas Inst | 140¼ | + 1½ |
| 27¼ | 12½ | Tymshare | 20¾ | − 2¾ |
| 58 | 25½ | Wang Lab B | 57¾ | − 1¼ |
| 12¼ | 7½ | Wyly | 10¾ | − ¾ |

*The table shows the closing prices in London on Friday and in America on Thursday. The Share Index is based on the prices of the UK companies in the table. Highs and Lows have been adjusted where necessary.*





# Leading-edge OEM products are just part of the story. Wait till you hear about the support we put behind them.



When you're looking for a supplier, obviously you want the most competitive product available — at a competitive price.

But those two things are really just the beginning of a solid, long-term OEM relationship with Hewlett-Packard. We also give you the service, training, documentation, support and the commitment to customer satisfaction that you'd expect from a major international company.

## You can be one of our biggest strengths. And vice versa.

Whether you integrate our hardware into your systems, or develop software for specific applications, your special expertise creates entirely new markets.

So we want to make it easy for you to do just that. We start by offering a wide range of products to work with: from fully programmable hand-held computers and desk-top models to complete data processing systems; along with an even wider selection of peripherals that are engineered to work together. That means you won't have to worry about interfacing.

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## We put a lot into our products. And a lot more behind them.

You're probably familiar with the kind of performance and reliability we deliver. But we think you'll be just as pleased to see the level of support we give you.

Since we're interested in solid, long-term relationships, we're ready to put all the strength of our support organisation behind you and your customers. So you can offer site planning and installation; contractual maintenance; per-incident and self-support services.

You'll have the resources of our 170 offices in 39 countries behind your product, on any basis you like. From comprehensive, 24-hour, on-site maintenance to economical 'return-to-us' service.

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**PLATFORM**

*Barney Gibbens is chairman of the CAP Group.*

# It's all Greek to the man in the street. . .

I WAS introduced at school to a Greek concept called "hubris". It was symbolised by a rotund and patriarchal gentleman, clad in a toga, standing on top of a column with his nose pointed skywards and a look of ineffable smugness on his face. Invariably, the picture was accompanied by a downward-curving arrow labelled "peripateia", signifying the inevitable crash of such an unlovely pride-filled person. The prodding finger which pushed him off the column was called "nemesis".

There are now enough omens to believe that the computing industry has already put on its toga, and is beginning to cast around for a convenient step-ladder in order to ascend the column. Such stepladders are currently being proffered from all sides. They include the very existence of a *Minister* for Information Technology, the fact of Information Technology Year, the reports of Alvey and Hunt, the DoD Software Initiative, the Fifth Generation, Clive Sinclair shipping 200,000 computers a month . . . the list of step-ladders is beginning to look like a Sears-Roebuck catalogue. And inevitably they will be used to elevate our industry on to its Grecian column.

Now there is no sin of hubris endemic in the fact of wearing a toga and standing on a column. Anyone, given an average sense of balance, can do it and indeed some people actually deserve it. Where the sin creeps in is in believing that you are genuinely superior, and therefore condescending, to your fellows (or, in the Greek case, to the gods).

Mature students, such as myself, have isolated various symptoms which indicate incipient hubris; primary among these is the lack of ability to laugh at oneself. This symptom is, I believe, manifest. For an industry that is central to the well-being of mankind (as ours, indeed, is), there is a remarkable dearth of jokes. Other centrally important institutions (the Church, the medical profession, and marriage as exemplified by the mother-in-law) are the butt of thousands of jokes; why not us? Is it that we are so full of our own importance that we deprecate computer jokes, or is it (and this is far more dangerous) that the populace at the font of our column regard us with awe? If the latter, it is time to replace that feeling of awe (the "beasts-and-priests" syndrome) with a feeling of understanding.

First-year students of hubris at this point fall into the carefully laid jargon trap. "We cannot get the populace to understand," they wail, "if they refuse to learn the jargon." Nonsense.

To take two examples from my own experience, I have been told (a) by my daughter to cleat down the kicking strap and (b) by an elderly friend to push XP1 through the bleach-fix for six minutes. As I am interested in both dinghy-sailing and photography, I take the trouble to learn the necessary jargon so as to be able to understand my instructors. The jargon trap is circumvented, not by abolishing jargon, but by getting people interested.

This desire in the breast of the Grecian figure to promote awareness and understanding is the best medicine for hubris. If he genuinely wants the populace to understand, and to share his knowledge, there will be no prodding finger of nemesis. He does not have to teach the detail. Everybody, for example, is aware of photography, but not everyone understands (or needs to understand) the underlying technology. What is important is that photography is available to all, useable by all, and not feared.

If our industry can achieve the same for computing, we deserve our pedestal.

*Barney Gibbens*

**PROFILE**

# Company 'doctor' who built world's No 1 software house

THE chip in the foreground of our picture does not exist — it is an optical illusion. John Imlay is holding up a rudimentary holographic device.

He has great ambitions for holography. "Just think — with computers and lasers, you could have Bo Derek in your living room," says Imlay.

If anyone can make this come true, he can. Imlay is head of the world's largest software house, Management Science America, a job he has held since 1971.

When Imlay took over this responsibility the company was in serious trouble. The company had been formed in 1963 with five people and grew too quickly into the consultancy field, employing over 760 people. When Imlay took over, he reorganised MSA into a software-only company and kept it going. As a result 50 jobs were saved.

By 1972, he returned the company to profitability with a turnover of $2.7 million. He repaid the major secured creditors and became majority owner in 1975. In 1979, he was elected chairman of the MSA board and chief executive officer.

Imlay was born in Florida in August 1936, and moved to Georgia as a child, graduating at the Georgia Institute of Technology in 1958. He then worked as a rep for the Atlanta branch of the Univac division of Sperry-Rand until 1965.

Imlay is unhappy about Sperry dropping the name Univac. "It's terrible," he comments.

From 1965 to 1969, he worked as branch manager for electronic data processing at Honeywell, followed by a period of crisis management for various banks and insurance companies.

"Before joining MSA, I worked on a lot of troubled companies, but I wanted the challenge of building a company instead of just salvaging one after another," says Imlay.

He decided to make MSA his permanent home. "I saw the opportunity of working with highly intelligent people," he explains.

A large measure of MSA's success must be attributed to Imlay's readiness to put the stamp of his personality on the company. MSA has the image of a company going places with someone at its head who positively invites public scrutiny, where other companies, IBM for example, prefer to play safe by keeping the mere mortals at the head out of the limelight for the sake of corporate continuity.

Not that IBM has always been like that — under Thomas J. Watson (Senior, that is), the individual was as important, if not more important, than the company. Corporate songs extolling the virtues of the man in charge would be learnt by heart by faithful blue-suited employees.

Not that Imlay wants to be sung to, but his leadership style catches the new mood of the return to good, old-fashioned individualism in management.

The company has thrived under him. Last year it had a turnover of £73 million and this year the figure is expected to be nearer $100 million.

The company went public last year with a flotation price of $16 per share. Today the shares trade at $41.

"We decided to use the funds to enter the micro market. Did we laugh a few years back when we first saw the Apple!"

The company moved swiftly to recover from the error of its ways by acquiring micro software house Peachtree down the road from its own office in Atlanta's Peachtree Road. IBM had approached Peachtree six months before it launched the Personal Computer to develop software for it.

"The interesting thing about Peachtree was that it did not even know IBM is a big company. Its whole world was Apple."

Unlike the South Sea bubble which just had to burst when MSA dabbled in consultancy services over a decade ago, MSA today is in the strongest position in its history.

Imlay is also chief spokesman for the Association of Data Processing Services Organisations (Adapso), the US counterpart to our own Computing Services Association — only somewhat bigger and more aggressive. Adapso consists of about 400 companies in computer services with a collective turnover of about $8 billion.

Imlay acts as Adapso's prime negotiator with IBM and AT&T, both of which are now free to encroach on territory which until the beginning of the year was exclusive to Adapso.

Imlay is more worried about AT&T than IBM. "IBM is an ally at the moment," he says.

As for the future, Imlay is very confident. "We are still in our infancy," he says.

IMLAY . . . *"You could have Bo Derek in your living room."*

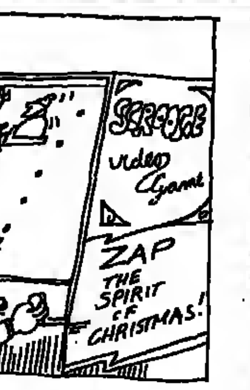
**DOWNTIME**

## Santa does OEM deal

FATHER Christmases ain't what they used to be. When I was a lad they came down the chimney. Now you have to visit them enshrined in their shop departments, with droves of store detectives to protect their whiskers.

Such high street Santas existed in my day, too, but then they gave away decent presents like plastic dolls, and golliwogs. Now all they do is take orders for the big day. Which is a bit of a farce because they don't come in person any more — they delegate their duties to the postman.

But one thing I can tell you. Such has been the demand for personal computers this year from children that one enterprising Santa has done an OEM deal with Clive Sinclair.



## The calculating lady who started it all in 1848

LADY LOVELACE, daughter of the poet Lord Byron, was the user of the world's first calculating machine, if you discount the abacus. In 1848 she used a machine the size of a minicomputer.

What is not quite so well known is that she can genuinely be held as the world's first computer programmer.

But my trump is that our lady of computing foresaw that future applications of calculating machines would not lie with simple number crunching, but with algebraic manipulation of symbols such as we have now with artificial intelligence languages like Lisp.

**10 YEARS AGO**

**FROM COMPUTER WEEKLY OF DECEMBER 14, 1972: An increase of 380% in the cost of software service to users of secondhand ICL systems obtained from outside the company was announced . . . Winner of the Computer 84 essay competition, predicted that by the next decade there would be terminal kiosks in shops, from which the public would be able to access computers.**

## Ringing the changes

ANCIENT Greece was thick with philosophers absorbed in their endeavour to square the circle. Now at computer conferences, a related activity seems to be preoccupying speakers — that of cubing the circle.

The process involves drawing three circles which either are mutually intersecting, or at least linked in a chain. Although I must confess I have seen three circles standing all alone.

At the recent Pergamon State of the Art review, for example, six papers used intersecting circles to put over their message at some point. Other conferences recently have had their share, too.

Which all adds up to a lot of balls.

## By any other name . . .

GOOD news for the UK glue industry came last week with the announcement of British Telecom's entry to the office automation market. Cynical industry observers have long drawn attention to ICL's fastest growing department, the NC division.

NC does not in this case refer to numerical control, but to Name Changing. The bulk of ICL's erstwhile manufacturing staff, who have had considerable time on their hands since Robb Wilmot's decision to manufacture nothing but paperwork, are likely to be offered redeployment within NC.

Here the hardware which holds the key to ICL's future prosperity will be uncrated. The labels bearing such names as Fujitsu, Rair, and Three Rivers will be prised off, and shiny new ICL labels glued in their place.

Now that BT has stated its intention to market ICL kit under its brand name Merlin, the same procedure will be repeated by highly-skilled Telecom engineers, using the latest high technology screwdrivers.

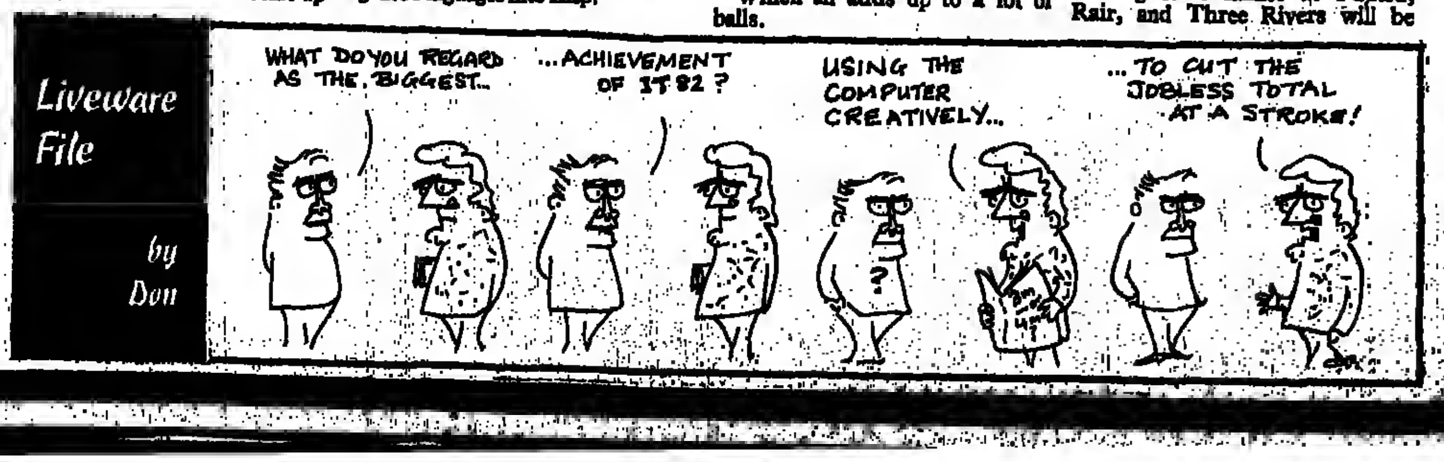
And the people who brought you the appalling Buzby creature were on the verge of perpetrating yet another crime against humanity. Merlin was almost named Biztel.

## Top secret

WITH spies, scandal and security in the air again, let's spare a thought for GCHQ computing staff wanting an honest change of job. What a doddle in the interview room — being able to sidestep all the questions about experience with "Sorry, I can't tell you — Official Secrets Act and all that."

What an opportunity for interviewers to revive dying traditions, concentrating on [illegible] ability, position in the [illegible] der, etc, [illegible] but [illegible] secret too!

*Chad*



**ComputerWeekly**

Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS

Thursday, December 16/23, 1982

# CAD-ish attitude of government

THE government's commitment to promote a healthy computer aided design and manufacturing industry has not been strengthened with its dilly-dallying over the sale of Compeda.

Compeda managing director Keith Trickett has reason to be annoyed, and his comments that "it is difficult to describe the situation without being downright rude" were the height of discretion given the exasperation he felt.

It is fine to have a policy of pushing public companies on to the private sector as long as the policy is one of practical realities rather than principle. In the case of Compeda, which at least has been taken over by the US minicomputer manufacturer Prime, there seemed to be confusion at the Department of Industry about what it hoped to achieve.

Trickett always welcomed the British Technology Group's plans to sell off the company. He looked forward to injections of private capital that would enable the company to fulfill its obvious promise.

Earlier this year, at the March CAD Conference in Brighton, Trickett talked about Compeda's PDMS and IDEMS software as being "world-beaters". Here "British is best" he said, and we should be blowing our trumpet that UK expertise has developed the best products in the world for plant design.

Unfortunately the trumpets blowing at the moment are sounding a rather different tune. Computervision, which reportedly offered five times the amount of Prime in its unsuccessful bid for Compeda, must feel, as Trickett did, that the ground rules were changed in midstream.

It is a fact of life that, if the government is going to sell off the high technology companies it has a share in, the most likely bidders will be American. The Compeda affair suggests that there are mixed feelings about this reality.

After the same March CAD conference in Brighton, Computer Weekly reported the government's intention to sell off the CadCentre in Cambridge. With such a move still understood to be in the offing, it would be as well that the mechanics and objectives of that operation are more clearly formulated than has been the case with Compeda.

# Make the most of it

THE possibility of a general shortage of personal computers for that last minute purchase for the Christmas stocking may be a daunting prospect for some. But indications at our office are that many people in the computer industry have already become immersed in the Christmas spirit and are not desperately eager to face the machines again unless they have to until after the New Year.

There are, after all, a string of holidays to negotiate and except for the long-suffering operations and technical staff, there is little that can be accomplished in those tail-ends of weeks that remain to us.

And should any accuse the industry of slacking at the end of IT82 Year it may be comforting to know that the Confederation of British Industry has leapt to our, and the rest of the country's, defence. An innocently worded statement from the captains of British industry points out that although many factories are shut for a fortnight over the holiday season, very little time will actually be lost for most of the period consists of bank holidays and weekends.

Cynics might describe this as a "It is not that we are not at work — we are just on holiday" type of comment, but we believe that it is no more than a factual statement of the case.

This being so, the best thing to do, in our opinion, is to make the most of the situation and restore the batteries which must have been worn down by the continuous glare of publicity for IT.

For the past year we would like to express a couple of lines of appreciation to our very own Information Technology Minister, Kenneth Baker. Disregarding his accomplishments, he has been indefatigable in pursuing publicity in our cause. There can be few computer office openings this year unblessed by his presence.

Our thanks for his energy.

## 1984 and all that . . .

THIS week's example of the strange things people say about computers was sent in by A. Murphy of Staines, Middx, who wins £5.

**And it is conceivable, says the magazine article, that once Man has destroyed himself, a whole new species of mechanical beings will inherit and run the earth.**

*Daily Mirror*

**LETTERS**

## Vital to learn Japanese

I WAS interested to read Speech Recognition in Europe (CW, November 25) and was slightly puzzled by the comment by Brian Pay that "Japan has gone very quiet, but one could not help thinking they are beavering away."

My understanding is quite contrary to what Pay pointed out. Speech recognition devices are one of the most talked about subjects currently among the Press, industry, users and academics in Japan. In fact, advanced speech recognition is one of the subjects in their fifth generation computer system project which set the national objective for 1990s.

Japanese are not beavering, but they are splashing the water all over the place.

This is not the first time I have heard statements that the Japanese are developing something "quietly". It looks quiet only to the eyes of the West, because everything they talk, discuss, announce, and publish are in Japanese.

To think that in Japan anything worthwhile to make public will be and should be done in English, and that reports and articles in Japanese language are less important, is a dangerous idea.

All important reports are first published in their own language just as are the cases for French and German.

It seems that it is now essential to learn Japanese to keep ourselves up to date in what is happening in the forefront of the advanced information technology area.

Or, perhaps, one may take the risk and wait five to 10 years until the fifth generation computer becomes reality in Japan. Machine translation system is another goal set for the project.

**S. KAKIZAWA**

**London, NW3**

*. . . and we need to read Japanese to get theirs.*

## Let's have a paper for young people

AS an aunt who has an 11-year-old nephew now taking computer studies as a course at his grammar school, I have been looking for a weekly or monthly magazine/newspaper aimed at young people taking their first interest in the world of electronics. I have found none.

If there is none available why not?

As a technical author, I have been involved in writing and illustrating notes for use in a training course for interested, bright school-leavers run by the company I work for. The course was very successful and at its completion the company had a small, eager group of people ready to continue their schooling to become top-grade test engineers.

These people, as school-leavers, knew something of electronics but very little of the computer world in general. I do think that there is scope for some sort of publication which will illustrate the wide range and exciting use of computers from deep space to deep sea, and with "home system" becoming the "thing" there would very likely be support from grateful learner parents too!

The occasional TV programme on applied electronics tends to bombard one with science, too keen, I think, to impress one with what "they" know compared with what the audience, in general, knows. Too much and too fierce to be easily absorbed, they retard rather than extend interest.

I have tried to help a lot of secretaries who are quite frustrated at not understanding what they are expected to type — or the word processors they are taught only to use, and I am very sure that youngsters in schools will have their imaginations and their enthusiasm fired if they have interesting, colourful literature made available via a sympathetic editor — something that will reassure them that what must seem like an incomprehensible work field that they have to, some day enter, is really not so daunting, and that with the wide scope of talents needed there will be room for them all.

**D. S. DAVIS**

**Hemel Hempstead**
**Herts**

## World record

LEX WILKINSON'S world record of 1,222 hours of continuous online availability has prompted several counter claims, most of which can be measured in mega-years.

However, all these claims are measurements of hardware availability only, and are therefore wind-assisted. Our record measures the availability of an online system to the end user — and this of course is a measure of both hardware and software reliability. If the system crashes at the terminal end, for whatever reason, this is downtime.

May I, therefore, proudly restate our claim to the world record — unless of course anyone knows different!

**GRAHAM MATTHEWS**
**Systems Manager**

**Lex Wilkinson**
**High Wycombe**
**Bucks**

## Wrong BIS

IN the People page (CW, November 18) you reported that Mark Rodrigues had joined Deloittes from BIS Limited, where he was managing director. Rodrigues has never been employed by this company nor its wholly owned subsidiary BIS Limited, and as such, may we request that a correction be published?

**B. J. WHITE**
**Company Secretary**
**Business Intelligence Services**
**London, SE1**

Note: The BIS referred to was Bureau and Industry Services, an employment agency, and not Business Intelligence Services.

## Good cause

THE London Marathon 1983 is a wonderful way for your readers to support a good cause, with the opportunity of also winning a valuable prize.

I am the (non-running!) captain of the Muscular Dystrophy Group team of runners. The group is a national charity which seeks, through its medical research programme, to find a cure for this tragic disease.

Anyone who has got a place in the Marathon can help me raise funds for this vital work. By joining our team, each runner will receive a free T-shirt and running vest and a place at our celebrity recovery reception after the event. They also have the chance of winning a place in the New York Marathon.

We are organising a unique sponsorship draw through which any of the sponsors could win one of the prizes, which include a Mini Metro, a hi-fi system or a cruise.

Runners, or anyone who would like to sponsor a runner, can write to me at The Mirrorthon Team, MDG, Freepost, London SW4 0BR.

By supporting our team, readers will be contributing to the essential work of the Muscular Dystrophy Group and providing hope to thousands of adults and children throughout the country.

**HARRY CARPENTER**
**Team Captain**

**London SW4**

## Statutory sick pay

DURING the last weeks there has been a great deal of increasingly well informed debate about the various arrangements for computer handling of statutory sick pay.

May I seek the assistance of your columns to discover whether any of your readers know of comprehensive, well structured and efficient test data for use in evaluating of SSP systems? One of our greatest difficulties at this time is that the new law requires quite different personnel information to be maintained and used. Objective testing standards must be identified — and quickly.

The undersigned will be prepared to discuss acquisition of such data with any of your readers who may have developed systems to assess computer arrangements for handling this very important and burdensome new law.

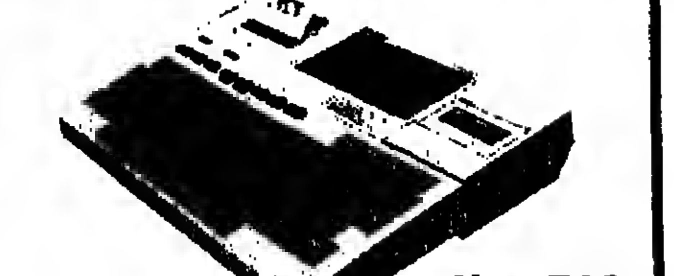
**JOHN GOODMAN**

**21 Mattock Lane**
**London, W5**

HAVING read many recent articles on statutory sick pay, and in particular that from Peter Dignam (CW, December 2), I would agree that any company believing the required amendments are superficial is in for trouble. The legislation is far reaching, beating VAT out of sight as a source of programming cost.

We have spent the last 10 months developing a complete package incorporating SSP functions for our clients. This is presently being installed for major companies such as Nationwide Building Society and Cow and Gate. Demand for these new systems is high amongst those who appreciate the requirements of the SSP legislation. We have a comprehensive SSP system in hand.

**CHRIS DAVIS**
**Managing Director**
**Target Computer Group**
**London, N15**



## WORKPLACE

# Digital methods keep Ordnance on the map

OUR priceless national asset, The Ordnance Survey map collection, is slowly and doggedly being digitised. The process has been going on since 1972 at Ordnance headquarters in Southampton, and now 2,500 maps are digitised annually at the three basic scales of 1:1250 for urban areas, 1:2500 for rural areas, and 1:10,000 for more remote mountain and moorland regions.

About 20,000 maps are now in digital data form, and at the existing rate of conversion, it would be 2050 before the whole UK is covered. But the process will speed up, and Ordnance expects data covering most of the UK to be digitised by 1993.

*VICKERS . . . Digital maps can be more accurate.*

At present it is mainly urban areas that have been digitised, although only a small start has been made on London. Areas are digitised as they come up for resurvey, and for this reason lucky Cornwall has been completely converted.

Map digitising involves assigning two qualities to each feature: a grid reference of its position, and a code of its type, which may be road, fence, tree or bridleway.

Flexibility and marketing are the two big advantages of digital data to Ordnance Survey.

The digital data can be sold, and is being used already by local authorities and water boards, among others. Here the flexibility comes in since the data can be edited according to user requirements, with an architect for example, being able to project alternative building designs on to existing maps.

With digital data there is no reason why map boundaries need be adhered to, or scales for that matter. In theory, an architect, surveyor, or engineer could specify the grid reference and scale of his choice and the map will be drawn. Ordnance Survey is now working on electrostatic printing of digital maps, which we can expect to see in the shops within five years.

Another big bonus of digital map data is that smaller scale maps can be produced automatically from the large ones.

The scaling down needs a program to describe which features of the large scale maps are to be left out of the smaller ones. One such feature is the domestic garage, which is included in the large 1:1250 maps, but not in smaller scale ones.

Text can be a problem. If it is scaled down with the map, it soon becomes unreadable and looks isolated as other features are dropped out. But if it is kept the same size, it splits its boots, and overwrites adjacent map features.

Clearly the answer is what has always been done in practise: adopt some intermediate text scaling, abbreviate the words, or leave them out altogether. But such sophistication is as yet beyond the computer, and will have to wait for some derivative of artificial intelligence applications now being developed.

Perhaps the hardest problem of all is that of copyright. All Ordnance Survey maps are Crown Copyright, which means that they may not be reproduced without permission for 50 years after publication. With the map data in digital form, copyright becomes a nightmare.

Ordnance Survey has a copyright branch dedicated to protection of the huge investment in maps and data. "We still expect to collect royalties when a client buys a digital tape from us, plots it and beams the information out," explains Liz Owen, a member of the branch. "But a lot of our customers such as local authorities are already licensed and have an inbuilt facility to use Ordnance digital data."

Because of the need to exploit the huge existing heritage of data in hard copy map form, Ordnance Survey differs from other organisations in its use of digital mapping tables. There are 24 Ferranti Freescan digitising tables to capture the data from enlarged film negatives of the maps. Two Xynetics fast plotters are used for checking the plots, which are then edited on one of three Laserscan workstations. Two Ferranti Master Plotters produce the quality output on to photographic film for subsequent map production.

The original digitising from the enlarged map negative is performed using a cursor carried manually across the table. Each feature is captured by placing the cursor over it, and selecting the appropriate button from a menu of features – fences, houses, roads and many others. The co-ordinates of the feature are recorded automatically on to magnetic tape.

At present the initial digitising is a batch process, while the correcting is online. Eventually, when

*OWEN . . . Tackling copyright problems of digital map data.*

digitisation of the UK is nearly complete, the whole process will be online, which is more efficient because any mistakes are apparent at once.

The Ordnance Survey's ICL 1900 is soon to be replaced by the ICL 2906. "We need to maintain our present software, but at the same time need room for new systems," says Captain Tony Vickers, who is on loan to the digital mapping division from the Army.

Vickers showed us some prototype maps printed direct from the digital data in the predictably well covered area of Southampton, the Ordnance base area. He pointed out that there is little loss of accuracy. In fact the digital maps are sometimes more accurate, he says, indicating some map contours.

Unlike Ordnance Survey, other organisations, notably the US defence mapping agency, are digitising from scratch. In this country similar projects are in progress at military establishments like RAF Farnborough.

Here the approach is different, as there is no original hard copy map data to capture. The process involves use of aerial photographs taken in close succession, which are then compared against common reference points. Simple trigonometry then yields contours.

Eventually all maps will likely be produced from aerial photographs with occasional ground surveys as back-up.

# Scroggs feels the sting in our Christmas tale

IT WAS Christmas Eve, and Edward Scroggs was a happy man. In his 10 years as DP manager of Pontypridd Smokeworks, his principal task had been the restructuring of the company financial year to correspond with the end of the calendar year, and he had finally convinced the board to accept his proposal.

How Scroggs had achieved this was not clear, but it was rumoured among the rough journeymen in the smoke foundry that he had in his possession certain photographs of the chairman and the canteen manageress which might prove embarrassing should they appear on the inter-works darts league noticeboard.

And so it was that Scroggs, not a man usually given to savouring enjoyment, let alone glee, smiled quietly at his reflection in the mirror of the executive toilet. Not many had the requisite status to hold a copy of the key to this Shangri-La which boasted soft toilet paper, but Scroggs' 10 years of unstinting devotion to the company had not gone unnoticed or unrewarded.

Scroggs had no time for Christmas. He lived alone, in a frugally furnished house, had no friends, and lived for his work.

This was the main reason for his attempts to have the year-end processing carried out during the week between Christmas and New Year. In previous years, the Smokeworks DP department had closed down for Christmas week, and Scroggs had been obliged to sit at home, reading through old compilation listings, noting who had made mistakes which he might be able to use as ammunition for one of his frequent and unpleasant attacks on his staff.

This Christmas would be different.

"With year-end coming up, we can't afford any mistakes, so the entire systems staff will be in attendance over the next week to make sure everything goes all right," Scroggs told his staff.

The staff grumbled under their breath. Scroggs had them where he wanted them. The Smokeworks was the only employer for 30 miles.

Down in the machine room, he visualised the scene as the new ICL 2966 glided effortlessly through the first of the year-end runs. It had been one of his best moves, he mused, to get rid of the old IBM 360, which although capable of doing the work required of it, needed 30 operators on three shifts to keep it running.

The introduction of the 2966 meant that VME could be used, and the need for operators had been greatly reduced – though not by the savage amount instigated by Scroggs. Only one operator a shift now remained, Scroggs choosing the weakest-willed, and wherever possible, crippled staff. He still bore the scar over his left eye where, years before, a headstrong young operator had thrown a 200 Mbyte disc pack at him for refusing to pay him overtime for working right through a weekend.

The evening shift operator, Tim, known as "Tiny" ever since his terrible accident with the decollator, gazed morosely at the master console. His new artificial legs were to have been fitted that week, but with all leave cancelled, all he could do was dream.

On the floor above, Scroggs felt that, at last, all was right with his world. There would be no miserable Christmas break for him this year.

A sudden metallic clanking woke Scroggs from his reverie. In the doorway, shrouded in a luminescent haze, stood a rust-streaked IBM 360, its lights, dim with age, flickering menacingly. A lineprinter materialised beside him. Over by the Warm-O-Lux hand drier, a cluster of seven track tape decks appeared.

The printer beside him clattered into life. On ghostly sheets of fan-folded ectoplasm, the words "YOU WILL COME WITH ME LINE FEED CARRIAGE RETURN" appeared.

Horror gripped him as ghostly fingers of flickering blue mist reached out. Suddenly, Scroggs felt himself moving up towards the ceiling. He braced himself for the impact which never came. The plaster opened up, allowing Scroggs to pass through unscathed. As he floated through the roof, into the chill night air, he noticed that the 360 had followed him.

"I've seen you before, haven't I?" asked Scroggs.

YES I AM THE GHOST OF COMPUTING PAST LINE FEED CARRIAGE RETURN YOUR OLD 360/158 LINE FEED CARRIAGE RETURN, rattled the ghostly printer.

"Why do you keep printing line feed carriage return?" queried Scroggs.

INCOMPATIBLE CONTROL CHARACTERS PRINTER SUPPOSED TO BE PLUG-COMPATIBLE LINE FEED CARRIAGE RETURN, replied the machine.

Beneath them, the winter landscape of South Wales sped past. The Smokeworks receded as a new housing estate loomed unattractively on the horizon.

"Where are we going?" asked Scroggs.

TO SEE WHAT YOU HAVE DONE TO OTHERS LINE FEED CARRIAGE RETURN.

The unlikely aviators descended towards a brightly-lit building, outside which a garish sign announced that it was the *Dog and Bucket*, part of the Fizzy Ales Group. From within came the sound of laughter.

The pub was crowded with revellers, but in one corner sat a lachrymose group of familiar faces. On the table before them lay almost empty half pint glasses. Scroggs recognised the miserable gathering as the erstwhile 'B' shift. The odd phrase from the redundant operators impinged on his consciousness.

"No work . . . kids hungry . . . sold the telly . . . only drink I've had all week . . . wife left me . . . all his fault . . . kill the bugger if I get my hands on him."

"Who are they so angry at?" asked a worried Scroggs.

HAVE YOU NOT READ "A CHRISTMAS CAROL" BY CHARLES DICKENS LINE FEED CARRIAGE RETURN? "I haven't got time to read," replied an irate Scroggs.

The 360/158 fell silent. It was thinking. This is what it was thinking: "If he hasn't read the book, then I don't have to go through all that business with the orphans, and Tiny Tim's leg operation. Computing present and computing yet to come can stay at home. I'll go straight on to the graveyard bit."

The *Dog and Bucket* faded, to be replaced by the cold stillness of a graveyard. In the distance an owl hooted.

"Why have you brought me here?" asked Scroggs.

The 360/158 pointed a grisly metaphoric finger at a tombstone.

"You can't frighten me, you stupid machine," blustered Scroggs, "That says Ebenezer Scrooge."

I HAVE DIRECT COMMUNICATION WITH DHSS COMPUTER RECORDS YOUR NAME CAN BE CHANGED LINE FEED CARRIAGE RETURN

"What do you mean?"

I MEAN I'M GOING TO KILL YOU IF YOU DON'T MEND YOUR WAYS LINE FEED CARRIAGE RETURN.

"Aren't spectres supposed to give advice rather than death threats?" enquired Scroggs.

TIMES CHANGE WE MUST ADAPT TO THE 1980S YOU WILL DIE IF YOU DO NOT CHANGE WE HAVE THE TECHNOLOGY LINE FEED CARRIAGE RETURN.

"Oh, all right then," replied Scroggs, ever receptive to a convincing argument.

And so it was that the year-end was mysteriously moved back to its original September date, Tiny Tim *did* have his leg operation, the staff were given a Christmas bonus and two weeks holiday, the old operators were re-hired, and the 2966 was returned to ICL on the grounds that it didn't perform to specification to be replaced by an old 360/158.

Scroggs bought a television and watched the Queen's speech and Morecambe and Wise.

"I'm sure people can't really enjoy this sort of thing," he mused, but the framed photograph of the 360 above the fireplace reminded him of the alternative.

"Yippee!" he shouted, donning his paper hat.

*Workplace is compiled by Philip Hunter and Andrew Thomas.*

## PUZZLER

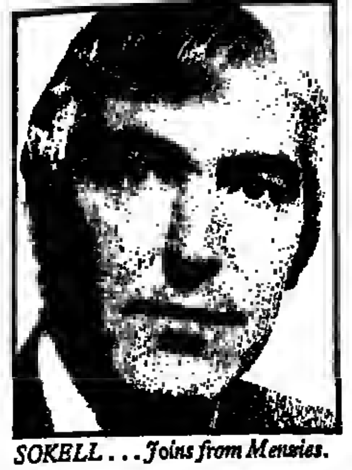
A LARGE farm is enclosed by a three-rail fence, each rail being 12ft long. The tract of land is exactly square. Strangely enough, there are as many acres enclosed as there are rails in the fence. What is the area of the farm?

Note: Due to the special method of fence construction, the width of the supporting posts can be ignored. And the various farm-gates consist of three-rail sections, so they also have no bearing on the problem.

See page 31 for solution.

## PEOPLE

# NTL appoints new managing director



*SOKELL . . . Joins from Menzies.*

■ NETWORK Technology (NTL) has a new managing director, Trevor Sokell, who has also been appointed a main board director of Information Technology, the holding company which co-ordinates and manages three subsidiaries, NTL, OTL and CTL.

Sokell joins the company from Menzies Communications where he was managing director from 1977. Menzies Communications, a subsidiary of the Menzies Group, was established by Sokell to specialise in computerised voice response systems, viewdata and retail point of sale.

Before that, Sokell was with ICL for 15 years, where he held a variety of sales and product marketing positions. Just before leaving ICL he was business manager for communications products.

■ Norman Harris has joined Computervision Europe as European marketing manager within the Architectural, Engineering, Construction (AEC) Support Group. He was formerly with British Nuclear Fuels where he was computer applications manager.

■ New vice-chairman of the Peripherals Suppliers Association is John Turner, UK sales manager with the data products division of Thorn EMI Datatech. Turner joined the PSA in 1979 and has been a committee member for the past year.

■ Ex-Wang territory sales manager John Aherne has been appointed sales manager, Accron Microsystems, at Newton Laboratories.

■ Quotel has appointed John Bowman-Daniels as salesman. He was previously with Hambro Life.

■ Philips Business Systems Viewdata has appointed Dr Eurfyl ap Gwilym (above) as general manager. He was previously responsible for small office systems marketing at Philips' business equipment division.

■ Two new analyst/programmers have joined Prolog Systems. Clive Martin-Ross was previously with RHM foods and Sid Seton was formerly with Applied Communications. Both now work in Prolog's Hewlett-Packard division.

■ Electronic Associates has appointed Alan Gilmore to its sales team. He joins EAL from Hunting Hivolt where he was sales manager.

■ Product manager at Impectron's optoelectronics division is Paul Springate. He joins the company from the Radio and Space Research Station at Datchett.

■ Kardex Systems has appointed Nick Maguire as national product manager of its product planning and development group. He was formerly a computer consultant.

■ The Cynthia Peripheral division of CII-Honeywell Bull (UK) has appointed Ian Bridgman as general manager. He was formerly a sales executive with Control Data.

■ Phil Northeast (below) has been appointed by Rediffusion Computers as general manager, sales. He joined the company in 1978 as Southern regional manager, and was promoted to national sales manager for the UK two years later.

■ Grundy Business Systems has established a NewBrain microcomputer user support service at its sales and administration office in Teddington. First recruit is Simon Lee (above) who becomes NewBrain technical support specialist. He previously held a similar position with Micro Trading in Birmingham.

■ Taking over as sales manager at Data Logic is Richard Slogrove, who joined the company in 1979. He replaces Mike Brainsford, who becomes executive director of marketing planning and services.

■ Portescap has promoted sales engineer Jeff Mead to field sales manager. He has been with the company since 1979.

■ Alex Kull has been appointed European marketing manager, systems software, at Cincom Systems International. He will be based in Brussels, moving from Cincom's headquarters in Ohio where he was manager of corporate marketing.

■ Root Computers has promoted David Saunderson from managing director to chairman. Replacing him as MD is Michael Kinton, previously the company's commercial director.

■ Ray Sheenan has been appointed senior consultant to the National Microelectronics Applications Centre in Limerick. He was formerly project manager at Telectron.

■ Paul Murphy has joined Management Science America as systems consultant. He was previously with Carborundum Data Systems, where he w senior systems analyst.

■ David Hubbick has joined Atlantic Computer leasing as manager, ISM systems marketing. He was formerly with IBM's ISM division as marketing representative.

■ Access Data Communication has expanded its field sales team with the appointment of Malcolm McEnvoy and Peter McMahon. McEnvoy joins the company from ISG Data Sales and McMahon was previously with AM International.

## DIARY

JANUARY 5

IT82 – What happened? IDPM Central London branch. Altergo, Imperial House, 15-19 Kingsway, London WC2. 6.00.

JANUARY 5-6

Viewdata. Conference on the state of the art. Institute of Information Scientists WP and computer information special interest group. Details Mrs Bird on: (051) 645 2000 ext 8611.

JANUARY 10

Voice input and output. BCS East Anglian branch. Norwich City College of Higher and Further Education, Ipswich Road, Norwich. 7.00.

Graphics by Edenwade. IDPM Norfolk branch. Castle Hotel, Castle Meadow, Norwich. 7.30.

The "square wheel" syndrome – recurring problems and pitfalls encountered by a consultant. Speaker Jimmy Macintyre, principal of Pactel. IDPM Scottish branch. Edinburgh University, Student Association, 60 The Pleasance, Edinburgh. 7.30.

JANUARY 11

Automotive micros. BCS Harlow branch. The Norfolk Room, The Saxon Inn, Southern Way, Harlow. 7.30.

Micros – the changing role of DP management. BCS London North-west branch. Bull Hotel, Gerrards Cross. 7.30.

Meeting. BCS Kent branch. Department of Computing, University of Kent, Canterbury. 7.30.

JANUARY 12

Computer Audit. IDPM Birmingham branch. New Imperial Hotel, Temple Street, Birmingham. 7.30.

Auditing with the computer. Joint meeting of BCS Auditing by Computer Group and the Institute of Internal Auditors. The Royal Lancaster Hotel, Lancaster Terrace, London. All-day event.

Book display and microcomputer demonstrations. BCS Bristol branch. St Vincent's Rocks Hotel, Clifton. 7.15.

Computing with the Woolwich. BCS Kingston Branch. Conference Room 1, Kingston Polytechnic, Penrhyn Road, Kingston, Surrey. 7.15.

The communications quagmire. BCS North London branch. West Lodge Hotel, Cockfosters. 8.00.

JANUARY 20

Auditing guidlines. BDP Auditors Association. Little Ship Club, Bell Wharf Lane, London, EC4. 5.30.

Distributed Computing in a local authority. BCS Newcastle branch. Ellison Building, Newcastle Polytechnic. 6.30.

FEBRUARY 9

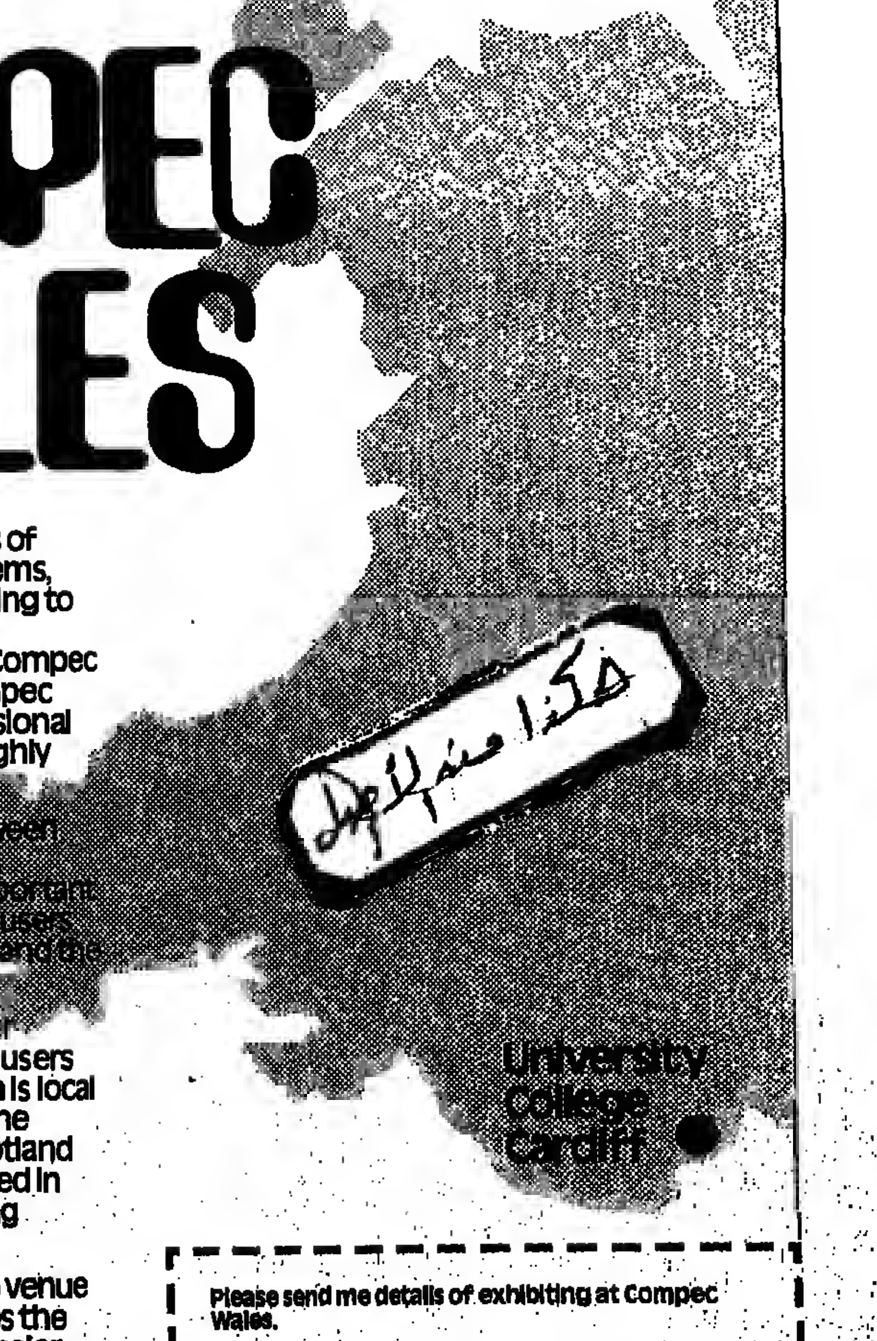
Mercury – the alternative to British Telecom. BCS Kingston Branch. Kingston Polytechnic, Kingston-upon-Thames, Surrey.

## CONFERENCES

■ COBOL must keep pace with new technologies in order to serve the DP user. In the case of VDU screen handling and transaction processing, manufacturers and suppliers have been forced to develop their own divergent processes, with the result that VDU-driven applications are among the least portable and most idiosyncratic of all. Before long, nearly all applications will be of the transactional rather than batch type – so what answer does Cobol have to this challenge? These are the points to be raised at A Screen Management Facility for Cobol, a meeting to be held by the BCS Cobol Specialist Group on January 26 in London. Venue is the BCS headquarters in Mansfield Street and it starts at 2.15. Details from the BCS on 01-637 0471.

■ A national conference and exhibition to explore the problems and potential of technological innovation for older people has been organised by Age Concern. Scheduled for January 31, it will be held at Caxton Hall in South West London. Fee is £10. Further details from Age Concern, 60 Pitcairn Road, Mitcham, Surrey CR4 3LL. Tel: 01-640 5431.

■ The London branch of the Information/Word Processing Association (IWP) has announced that its first one-day seminar programme for 1983 will focus on opportunities to connect word processing and typesetting systems. The session aims to bring together professional printers and WP users, with speakers who will discuss the latest technology, practical methods for connecting the systems, and the cost of in-house and external use of the systems. It will be held at the City Conference Centre in London on February 24. Fee to IWP members is £55; non-members £55. Details from Quadrilect, 3 Courtfield House, Baldwin Gardens, London EC1N 7SB. Tel: 01-242 8697.



# PERSONAL COMPUTERS

### With more people turning to packaged software, Phil Manchester argues the case for structured design in programming

## Structured programming will soon arrive with a vengeance

THE "father of structured programming", Professor Edager Dijkstra, upset a lot of people in 1977 by saying that microprocessors were not a good thing.

He made his controversial statement at a public conference (IFIP 1977) because he felt microprocessors would set the cause of good programming back 25 years.

He argued that the slowness and smallness of micros coupled with their "chaotic, unsystematic order codes" and unreliability would mean a repetition of the same mistakes that were made in the early days of mainframe computers.

A quick glance through any of the micro magazines, bulging with clever little programs that use every bit of an 8K RAM, would seem to have proved the noble professor right. All of the work that has gone into improving the programming craft during the past 10 to 15 years appears to have been totally ignored by the micro enthusiasts — computerniks, as Dijkstra called them.

While they are tinkering away in some version of interpretive Basic on their eight-bit micro, there is no cause for alarm. But 16-bit and even 32-bit machines will be replacing these toy machines sooner or later.

The purchasers of these machines will expect to be able to perform the same tricks on these super-micros as have been already achieved on mainframes.

A concern for the "draining of our intellectual powers to an extent that no society can afford" — as he called it — underlay Dijkstra's criticism of micros.

In this speech and his earlier work on structured programming Dijkstra was simply pointing out that programming was a very difficult craft to master and that it could be made easier with a formal approach.

This argument has been behind many attempts to improve the software development process and increase the productivity of the programmer.

This mission has never been more important than it is now, with computers being installed at a rate far in excess of the rate at which new programmers are being "trained".

A solution to this problem is pre-packaged growth in the last couple of years. In many cases, however, this is only a short term solution especially in the area of applications software.

The only alternatives are to let the idiosyncratic methods of producing software carry on as they have always done, or to resort to a formal method of software production.

Dijkstra is sceptical about "methodologies". In an interview just a year ago he slammed instant programming enlightenment as purveyed by method vendors: "In the area of methodology there are so many quacks and charlatans — the one-hour seminars or the three-day courses where all speakers are 'guest experts'. There is one useful thing about the advertisements for these short courses — if they are prefixed by the words in-depth, you can be sure that they are junk!"

Of course, most commercial programmers and their managers will dismiss this emphasis on method as "too academic" and "ivory towers".

But maybe they are missing the point. Just like the people they scorn for a Luddite attitude to computer technology, they too are rejecting something relatively new. Allowing for the typical gap that occurs between the conception of a new idea and its emergence into the real world as a "product", structured programming is due to arrive with a vengeance over the next few years.

Although Dijkstra first talked about structured programming in 1968 (GOTO statement considered harmful), it was not until 1972 in his paper, The Humble Programmer, that the world at large was to find out about it. Typically the technology gap, as it is sometimes called, is eight-10 years.

So, structured programming as a viable commercial proposition is overdue. That is, assuming that there is something in it. A lot of influential people are beginning to believe so. The US Department of Defence, for example, has spent the last eight years pushing the concept of a more manageable language for systems programming with what is now called Ada.

One of the key factors in Ada is supposedly its ability to enforce structured method on the programmer. This is not to say that it would be impossible to write a bad program in Ada, but that it will be a lot easier to write a good one.

Regardless of its merits, at least the concept of formalising programming is embodied in Ada and its associated environment. At the same time, IBM has renewed its belief in structured programming as a solution to its mamoth software problem. Last year it published the results of work in its Federal Systems Division under Harlan Mills.

Mills was IBM's first "super programmer." In a brave experiment conducted in the late 1960s, Mills led what was called a Chief Programmer Team. After discovering that the Chinese Army approach to software production was a disaster, IBM set up the Chief Programmer project around Mills, one of its best programmers.

The project was seen as a success but the idea had to be scrapped. There were just not enough super programmers to go round. So Mills went off to work on something called "software engineering". In essence, software engineering is the practical application of structured method. Where structured method is a set of design and procedural concepts, software engineering is their implementation in terms of languages, management techniques and programming tools.

At the end of 1980, the work of Mills and his IBM colleagues in this area was published in a special software engineering issue of the IBM System Journal (Volume 19, Number Four, 1980).

More recently, the Japanese have stimulated interest in more formal methods of software development in the Fifth Generation report. Under the heading of Systematisation Technology, the report specifies a research goal of the "development of techniques relating to the cycle comprising system design, development, maintenance and management."

That is a long-winded way of saying software engineering. As is well known, the report has been variously described as an implausible list of wishes and a blueprint for future computing technology.

Either way, the research goal of finding better ways of software production is a noble one and has already received a response from the UK. The Alvey report looks for similar breakthroughs here. And at the same time commerce is beginning to catch on to the potential for well-engineered software and the tools to build it.

The recent deal between the National Westminster Bank, Plessey and Imperial College London to combine their various resources to produce software tools is the first of what could be many such ventures.

So, there can be no disputing the will of computer technologists worldwide to "make things better".

But how will this shift toward formal software specification and development effect the average ZX81 user?

The answer lies between very little and not at all.

For a start, the small personal computer is limited by all of the things that Dijkstra mentioned in his IFIP speech quoted earlier. It is also limited by the programming language it offers.

The only way that the casual programmer is going to find out about formal techniques is by accident. They are too difficult to convey in a magazine article or a newspaper feature. When they are good enough to merit attention, they are invariably presented in an overly academic manner, relying on complex mathematical notation rather than plain simple English.

And, after all, why should a casual programmer be at all interested in finding a better way to produce programs?

Surely, our Pet or Apple user is quite happy entering line after line of soggy Basic?

For the answer we must return again to our academic mentors. Joseph Weisenbaum, another renegade computer man, this time from the Massaschussetts Institute of Technology, voiced his fears over what he called the "compulsive programmer". He sees a new breed of person emerging from the brave new world of tomorrow's computer technology whose raison d'etre is simply to program.

There is a real danger in people becoming totally fascinated by the unlimited abstract world that the inside of a computer offers. We can create any world or universe we wish, inside a machine.

In the abstract world of programming the structured method is the map and the techniques of software engineering are our weapons.

We would do well to use them.

DIJKSTRA . . . "Chaotic, unsystematic order codes."

## Splashing out on computer cost this reporter 12 hours a month...

### Howard Karten, our US correspondent, describes how owning an IBM PC has changed his life

**by Howard Karten**

"CONGRATULATIONS, you're now an IBM customer," said my friendly neighbourhood IBM salesman as I paid for my very own IBM Personal Computer. For a fleeting moment, I felt like the managing director of a large company.

That was nine months ago; since then, my PC has caused some significant changes in my workstyle.

My main reason for buying a PC was to use it as a word processor.

As an ex-programmer, I first used word processing nearly 16 years ago, in the form of an IBM 360/65. My computing background gave me a pretty good feel for what micros were all about, and also meant that I knew what a WP could do — and would not do.

I had spent some time gathering information about the various systems available — chiefly the Apple II, of course, and the Xerox. The announcement of the IBM machine changed the game, and it quickly became clear to me that the IBM was the "best" choice.

The reasons were simple. First, it seemed obvious that the IBM PC would set a de facto software standard, Second, in ergonomic terms, the Apple seemed the least flexible, the Xerox 820 more so, and the IBM, the closest to an ideally designed system.

My computer is used daily — I IPL (as an old programmer, I refuse to use the term "boot") the system at 0800 hours, and it stays on until around 2300 or later. In the nine months I have not had a single hardware failure of any kind — and there is a fair amount of dust around my office.

Nor have I experienced any downright software failures, although at times IBM's software has done strange things or been more rigid or difficult to use than I would like.

I use IBM's EasyWriter software. Although this package has had a bad Press, it has met my needs quite handsomely. The first release was, in truth, a bit cumbersome; the first revision, EasyWriter Release 1.1, was free to all EasyWriter purchasers, and the difference noticeable.

When I bought my system, I knew I needed a formed-character printer, which IBM did not make.

I eventually bought an NEC (Nippon Electric Co) 3530 Spinwriter, which seemed to be both reliable and interfaceable with the IBM.

How has having the computer changed my life? Well, I don't have as much available time as before. With an expensive item such as a computer, one naturally wants to keep abreast of developments, so I subscribed to PC Magazine, a new California publication that specialises in news of the IBM PC.

Scratch three or four hours per month. And, of course, I joined an IBM PC users' group; scratch four more hours per month. And I got roped into editing the group's newsletter; that's four more hours.

Having a computer has made me neater. I am terrified of losing files on my discs, so I have become compulsive in terms of putting discs back in their proper place. Nor have I implemented the "paperless office" — paper is still quite handy for jotting down quick notes.

On the other hand, its easy to leave various files lying about on disc, so I periodically practise file management discipline by sitting down for an hour or so and printing or purging obsolete files.

Before I had the computer, I used to transmit stories to Computer Weekly by reading them [illegible] the phone. With a modem, a telex account and the appropriate software, I no longer need to watch the clock in terms of calling when the office is open, and there's less wear and tear on my voice. Also, I can access my telex account from any telephone and any computer terminal in the country, which makes [illegible] to keep in touch with [illegible]

[illegible] greater flexibility is that I often wait until evening to transmit stories, so I'm actually working longer hours.

Writing on a word processor is both easier and harder than using a typewriter. On the one hand, editing and revising is easier. However, I find an unfortunate writer's tendency to keep playing with stories, letters and so on, to get them [illegible]. One must learn to [illegible]

### Living with your micro

1. Cleanliness is truly next to godliness. If you must smoke a cigar when using a personal computer, be especially careful where the ashes go.
2. In addition to the VDU, disc drives, and so forth, personal computers come with a built-in, but invisible, following of vendors, all of whose products cry out "buy me, buy me." In addition to the electronic parts, the computer housing contains a hidden vacuum cleaner that likes to suck up money. Resist temptation.
3. There are other things to talk about in life besides how fast and how versatile your computer is, If you customarily repair to the library for brandy and cigars after dinner, put your computer in another room.
4. There is no ops staff to do back-ups and restores. Make sure you've got either a backup copy of critical information, or a write protect tab on the disc.
5. If you do have games on your computer, wait until after business hours to play them. Time flies when you're having fun.

KARTEN . . . "If you must smoke a cigar, be careful where the ashes go."

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## Most 16-bit micros urgently need some decent software

### Martyn Harris reports on the growing importance of the 16-bit microcomputer

IN the last 18 months, over 100 16-bit microcomputers have been launched on the world market, and almost 50 are now available in the UK.

Early ones, like the Altos ACS 8600 and Intel iTPS were generally "pseudo" 16-bit machines, using the Intel 8088 processor which has 16-bit internal architecture but an eight-bit external address bus.

True 16-bit machines using the Intel 8086 or Zilog Z8000 chips (like the Future Technology Series 88 or Olivetti M2) followed, but these are now being overtaken in performance terms by the Motorola 68000 "superchip" which has a 16-bit address bus but uses 32-bit internal architecture.

These latest 16-bit micros are formidable machines. A few comparisons will make the point. In the US the 68000 chip which normally runs at around 6MHz is being tested out at speeds of up to 15MHz, giving it a 66 nanosecond cycle time, which means it could run the Byte prime number benchmark test more than twice as fast as the Dec PDP-11/70 minicomputer.

Since the 68000 can also directly address up to 16 Mbytes of RAM it is, in this respect, comparable to the IBM 370, 303X and 4300 mainframe computers.

68000-based micros will offer multi-user, multi-tasking operating systems, large user memory, enormous instruction sets and the kind of hefty system software (database management, language processing etc) more usually associated with mini and mainframe systems.

At about a quarter the price of a PDP-11/07 these machines are bound to take a large slice of the mini-replacement market and also to win a large number of new users who need a hefty system but haven't been able to afford one.

People have been saying this for years, of course, but in fact micros have not yet made much of a dent in the commercial data processing market.

When eight-bit commercial micros like the Pet, Apple and Tandy first appeared in the mid 1970s they were described as a product in search of a market. The market they eventually found — home computers and small, personal business machines — turned out to be a vast one, but it was a new application area that did not substantially interfere with the established world of larger machines.

This was entirely brought about by the inadequacies of the micros.

An eight-bit micro is only able to directly address 64 Kbytes of RAM. What this means in practice is that eight-bit micros are single-user, single program machines which are virtually useless for any very elaborate commercial work.

There are, of course, ways of getting around these limitations. Very large programs can be partially "overlaid" on to fast discs. Many micros use special firmware for indirect addressing or "bank switching" in which memory is first accessed in 64K chunks of "pages" and then a second operation carries out a "sub-access" within the page. This can extend practical memory size up to 256K but also slows down the machine.

There are some micros like the Datapoint and Cado systems which successfully use timesharing techniques to allow multiple VDUs to be attached to a common CPU and central files. There are multi-user eight-bit operating systems like Oasis and MP/M available which theoretically allow as many as eight terminals to be attached.

For anything but very light work they aren't much good for more than two. Professor Martin Healey of Cardiff University calls MP/M, "almost useless on eight-bit machines though it does have a role in the simpler category of multi-user machines in its 16-bit MP/M-86 form".

Eight-bit multiprocessor systems are another possibility, using multiple CPU boards on a common high-speed bus, with cabling to a network of VDUs. Examples are the Equinox 200, Plessey System 19, Peripheral Hardware VW 2/3, ICL/Rair 3/30, SWTP S/09 and so on.

The other multi-user option for eight-bit micros is to link standalone machines to a common resource sharer (usually a file and printer server) which is, of course, the Local Area Network approach adopted by many major companies like Xerox, Digital Equipment, ICL, DRS, etc. The trouble with LANs is that although the basic speed of the network is impressive the actual throughput (say for program loading) is much less.

Having said all this, most of the 16-bit machines to emerge so far are single-user devices. The IBM Personal, the Sirius, the YE Data YD 8110, the Hitachi, the Wang, the Sord M416 are all 8088/86 based computers running under Microsoft MS-DOS or Digital Research CP/M-86 operating systems. Their main advantage over eight-bit machines is the larger user memory available (512K-1 Mbyte), high resolution graphics and slightly faster operating speed.

The 68000-based micros like the Fortune 32:16 and Britannia Series 3 are the genuine multi-user systems, supporting up to 16 Mbytes of RAM and as many as 16 terminals. Both the Fortune and Britannia run comfortably with eight busy terminals, showing only marginal deterioration in response time. They also tend to cost about £1,000 more at entry level than the IBM/Sirius type machines.

At the moment, all 68000 micros use Unix or Unix-lookalike operating systems, although a single-user version of CP/M called CP/M-68 is under development by DEC and Hitachi. A third operating system called Smalltalk, which has been used for some years inside the Xerox Corp is also expected to be announced shortly.

Unix is a portable, multi-user operating system, inspired by an interactive General Electric system called Multics. It was designed at Bell Laboratories as a software development system for minicomputers by two men, Thompson and Richie, who also developed the C language for structured programming under Unix.

As a completely portable system, supporting a lot of languages, application programs and system software, Unix looks likely to become a standard on 16-bit micros, although it has its critics.

> "Unix looks likely to become a standard on 16-bit micros, although it has its critics"

Although Unix has a fairly high memory overhead of as much as 60 Kbytes this rather pales into insignificance when you consider that you have 16 Mbytes of memory to play around with. It is the sheer size of this user memory which will give the Unix machines most of their impact.

It means they will be able to support sophisticated database management systems, language processing and even file sort/merges, all within the confines of high-speed RAM.

But that, for the moment, is all in the future. Most 16-bit micros are very short of software, and what does exist is not very good. This is because most of it has been transferred in haste from eight-bit CP/M systems and does not take full advantage of the 16-bit machines' larger instruction sets which means they run at almost the same speed — a bit of a let down if you have forked out an extra £5,000 to speed things up.

As an interim measure many users will find it worthwhile to turn to hybrid machines incorporating eight and 16-bit processors.

The extra processor does not add a lot to the cost and you have the considerable reassurance of being able to run all the vast library of CP/M applications software while waiting for the 16-bit software merchants to get their act together.

HEALEY . . . "MP/M is almost useless on eight-bit machines."

## It's no longer just the freaks who buy personal computers

### Martin Banks looks at developments and trends in the home computer market

ONE of the problems with computer hardware is that it is a moving target. As soon as someone pins a definition to a box then the box metamorphoses into something different.

It is noticeable today with the personal computer. When these systems first appeared they were defined as being for the hobbyists — the "freaks" who thought that Assembler was the only way to talk, and the soldering iron a logical extension of the right arm.

It was felt that these machines, systems like the Altair, the Imsai and the SWTPC 680, would be used in homes for fun, education, maybe a little bit of programming.

Indeed they were used in that manner, especially in the US. But more often, they were used occupationally, in some form of business or venture.

In the end, the "personal computer" changed definition. It became the small business machine. Sometimes it was still called "personal", but this only referred to the way it was used in a one-to-one man/machine relationship. The domestic market for computers seemed to die away to await a future resurection. The day of the "home computer" was yet to come.

It is perhaps necessary to define a home computer, and to try to isolate differences from personal machines.

The obvious starting point has to be price. An IBM 4300 can be a home computer if the domestic budget is large enough.

A maximum of £200 per machine appears to be the prire the market will bear, though this is already being driven down towards £150. Above this price, the machine starts to get lost in the low end of the business machines market.

It is easy at this point to start adding in technical elements to the definition of the home computer, things like memory size, processor type, version of Basic used and the like. This, according to Mike Lunch at Texas Instruments, is the wrong way to view the subject.

As the man responsible for marketing TI's 99/4A home computer in this country, he views the definition of the breed as follows: It should be specifically designed for use in the home by the entire family rather than be a machine that, by chance, can also be used in the home. To this end, it should incorporate plug-in software modules, colour graphics and good sound reproduction capabilities.

It should also be simple to use, at least as simple as the current crop of video games, and it must be, to use that grossly overworked phrase, user-friendly.

His views are interesting for he claims that the home market was started, and the home computer defined, by Texas Instruments, with the introduction over three years ago of the 99/4 machine.

Most people might suppose that the market was first broached by Clive Sinclair with the ZX80, and that it was established as a going concern by Sinclair, and the ZX81. Alternatively, there might be those that suppose the market was created by the likes of Commodore with the introduction of the Vic 20, the first "cheap" computer to incorporate colour.

Again, TI might protest at such suggestions. After all, the 99/4A now fits the company's specification of a home computer to a tee, and to be fair, it is a reasonable specification to aim for. TI did lose on price and user-friendliness until last year. Before then the 99/4 needed a US-standard TV and cost over £1,000 all in. Most home users aren't really going to be too fussed about all the technology. They are going to be more interested in its ease of use.

This is an important point from the TI view. According to Lunch, the essential question is: "Can this system be used by a child of four?" He believes the answer is no for the majority of systems. For a home computer, it is a question that has more real relevance than machine comparisons used to assess general purpose and business personal computers.

People know what games programs they want to use, or what educational packages they need for themselves or their children.

The future is more difficult however. The potential is enormous, because sales of systems so far can have only scratched the surface.

Their appearance on the market is essential if the whole industry is not to fizzle out and become the next hula-hoop or CB radio — a fad that was fun while it lasted. Without a stream of new and, more importantly, different software products, such a fate is quite possible for the industry.

The alternative is quite fascinating, and it should interest every programmer in the computer industry. With the advent of the home computer, new ways are being developed to create and market software. For the first time, some of the analogies put forward for the personal computer, comparing it to the hi-fi system, are now coming true.

And as with hi-fi, it is the records that are popular and the recording artists that are famous and highly paid. Software publishing is now opening up similar opportunities for programmers. The entrepreneurial and enterprising "Cobol-coder" with a good idea has no better chance than now to start the process of becoming rich and famous.

The type of improvements in hardware that can be expected, fall into two main groups — the evolutionary and the fundamental. In the former category are such items as better colour, flat screen displays, more comprehensive sound facilities, speech synthesis, and higher capacity storage systems that are easier to use than audio cassettes — bubble memory perhaps, if only the price can be driven down low enough.

On the fundamental front, the one big drawback with all the current crop of home computers is the interface between the machine and the people. For many people, and this can include trained typists, the keyboard is the biggest single block to their use, interaction with, and enjoyment of, home computers.

The keyboard is also one of the most expensive items in a system, and because it is electro-mechanical, it is going to stay that way. The keyboard, therefore will probably slowly disappear to be replaced by speech recognition systems.

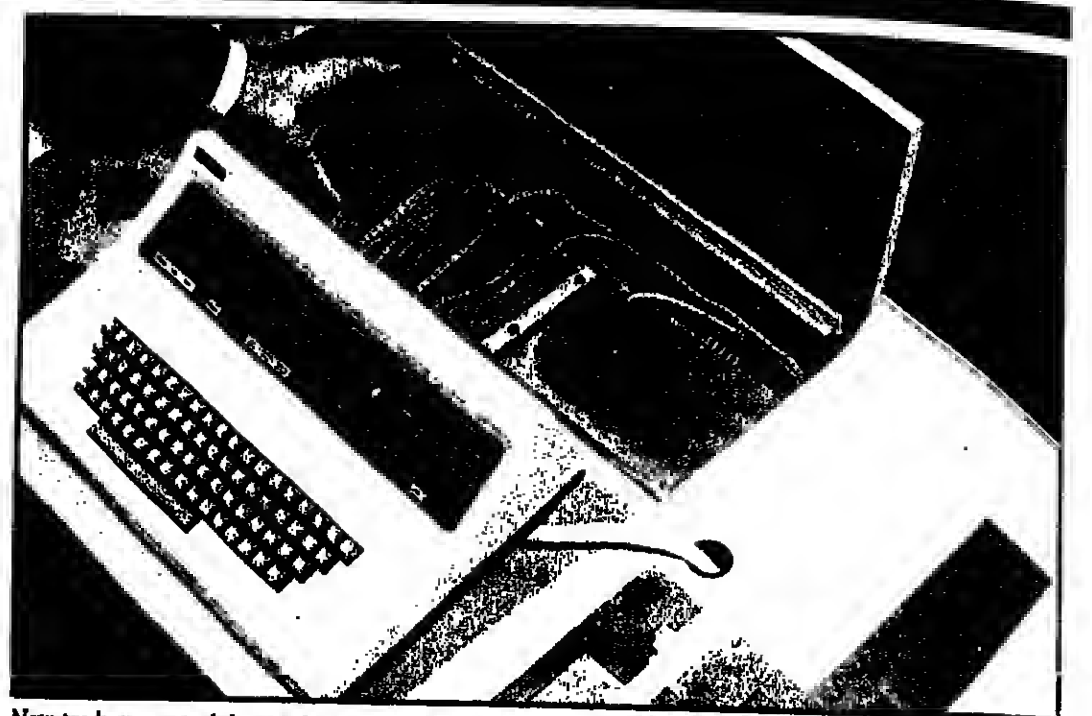
Though still some way out into the future, speech recognition will one day arrive, and it will in the fullness of time be much cheaper than a qwerty keyboard.

It will only be cheaper for those manufacturers that can afford the upfront investment in developing and programming the speech chips. Once that investment has been made successfully, then the benefits will accrue. Not only will such a system have novelty value to help it sell. If it is produced properly it will have features that the users will love and respond to. Such systems will be the ones that will sell, probably leaving the rest of the competition behind.

The home computer market is already a big business. The problems for a manufacturer either in the business, or trying to join, are just as big.

In five years' time it is likely to be a Japanese company, a couple of (probably US) multi-nationals with a strong presence in the consumer market, and probably (but by no means certainly) Sinclair that dominate the market for hardware.

*STABLER (left) and PRICE . . . Looking to the next Zip generation.*



*New products are needed to get the company into growth markets, but paper tape punches will have to go.*

# It's back to Square One for a resurrected Data Dynamics

## The company is now on the road to recovery . . . Boris Sedacca reports

DATA DYNAMICS wants to make it known that the company is functioning, and has not, as previously reported, gone bust. Well, let's say it has been resurrected – as far as customers are concerned at any rate.

As for suppliers and other forms of unsecured creditors, they will find that the company they were dealing with, Data Dynamics, is now defunct, and that a new company, also called Data Dynamics, has taken its place.

The new company will not be paying the old company's debts.

Basically, the old Data Dynamics had its name changed by the receiver to Data Dynamics Realisations – of which all that is left are debts.

This process allowed a risk capital company called Innotech to step in and buy up the assets and the business of Data Dynamics, including the name, using a shell company called Scanprobe and re-registering its name as Data Dynamics.

Neat.

"I have to make it clear that we will not be paying the old Data Dynamics' debts, nor are we obliged to do so," says Innotech director Humphrey Price.

Innotech is a 15-month-old venture capital company with a capital base of £3 million, made up of a portfolio of investments in six high technology companies with interests ranging from metallurgy to electronics and telecommunications. In most cases, it takes only a minority stake in these companies but in the case of Data Dynamics, says Price, it broke the rules because receivers are not interested in share deals.

"We are not just a provider of money. We put in a mixture of equity and loan capital as well as management support," he says. Price insists that no customers have been hurt – only suppliers.

Data Dynamics has a chequered history. Set up in 1966 as an Uxbridge-based manufacturer of teletypes, printers, terminals and data preparation equipment, the company expanded by buying up a data prep bureau called Dynamic Data some eight years later.

This was to provide an extension to the engineering department, allowing it to focus on ergonomics aspects of data entry as well, and to change direction by branching out into data prep services.

The company had also been active on the European mainland. In 1968, it set up Teleprint in Germany to get into the European telecoms market. However, the French would not buy from the Germans, so one year later yet another company, called Peripherique, was set up.

"This proves that the only thing common about the Common Market is a common desire to be different," says Chris Stabler, managing director of Data Dynamics – both the old and the new.

Expansion continued apace into Switzerland with the formation of a company called Teledynamics, followed by Teleprint in Holland, then by Data Dynamics in Spain.

By 1979/80, the company had a group turnover of £10 million. The first crisis had struck in 1977 and Data Dynamics had to sell off the two Teleprint companies in Germany and Holland, and a new German company called Teledynamics was formed.

When the receiver came in in November 1981, he sold off Teledynamics to Data Type Terminals, a company set up by ex-Data Dynamics employee Gerry Tuffs in 1978. Another part of the company, Data Dynamics Services, was sold off to an employee, Don Hofford.

The company's crisis reached a peak in April this year when its accountant, Leslie Oaten was jailed for 18 months for forging cheques worth £39,500. A result of this was redundancy for 50 employees.

Stabler had called in the police in October 1981 when he realised that Oaten had been writing cheques with a ballpoint pen which used erasable ink, substituting his name with that of a credit card company after Stabler had signed the cheques.

At the time of Oaten's conviction, Stabler said: "I found out quite by chance. It surprised me that his method was so crude. He had been sent away on courses to do with computer systems security against fraud. I would have thought he would have come up with something more sophisticated and more difficult to detect."

The bank lost confidence in the company in view of the fact that Oaten was the chief accountant, called in an overdraft and appointed a receiver. Stabler is now trying to get over the ravages of his experience.

One of the companies in which Innotech has a stake is a telemetry and communications outfit called ATS. Data Dynamics will supply a visual display unit manufactured by ATS for telecommunications applications. ATS will also sell the same VDU, but in a highly customised version.

Price explains how Innotech looks at synergy potential between the companies in which it has a stake. "We do not look for complete start-ups. The companies which we take an interest in have to be at the 'next stage' as we call it, where they need that little push to take off.

"We insist on board representation and install our own financial controls and disciplines. We do not demand too many details because these companies are not in the business of producing reports for Innotech, but we ask for the minimum amount of information needed to satisfy us," he said.

The company's Zip range of printer terminals is a mature product line which keeps the cash churning around, but new products are needed to get the company into growth markets and Stabler envisages launching the next Zip generation in three to six months' time. Meanwhile, paper tape punches will have to go.

"We are just as capable now of launching a successful product as we were when we launched the Zip range, which was one of the first on the market to use microprocessor control," Stabler concluded.

In the meantime, erasable ink pens have been banned by Data Dynamics.

*Ex-Data Dynamics employee Gerry Tuffs [illegible] part of the company.*

---

*"Can we swop this for free ice-creams for a year?"*

# Lawyer's guide bridges the knowledge gap on computer evidence

The Computer in Court. Alistair Kelman and Richard Sizer. Gower Publishing Company. £14.50.

COMPUTER evidence will become increasingly important in the future, as the spread of automation decreases the likelihood of a human witnessing crime such as fraud or theft.

This means that lawyers will have to learn special techniques for examining expert computer witnesses to highlight flaws in computer output, and computer users must ensure that systems provide information that is valid in a court of law.

This book aims to bridge the knowledge gap and is the culmination of several years' work by the authors: Alistair Kelman, a barrister well-known in computing circles, who specialises in copyright law, and Richard Sizer, who is chairman of the Professional Advisory Committee of the British Computer Society and a member of its Professional Board.

Although the book is supposed to be a guide for both lawyers and computing professionals, it is weighted more heavily towards the legal profession, spending more time on explaining computing than the law.

It concentrates on potential problem areas such as establishing the admissibility of computer evidence, showing areas where errors could invalidate results pertinent to a legal case, which helps to keep the book short and good for quick reference.

Chapters Four to Seven cover an imaginary trial of a character called Grapefruit Sorbet, accused of theft of groceries from his employer, Coroet Supermarkets Limited. Prosecution evidence hinges on output from the supermarket's Kamikaze DDB7 computer and Mr Honey-Bunny, defence counsel, sets out to prove that a dubious order processing system, developed by a programmer named Cherry Cheesecake, had given Sorbet the oysters, Champagne and caviar he is alleged to have stolen.

Aspects of the court case are analysed in Chapter Eight, and the authors go on to suggest some guidelines for the future, including the draft of a seven-statement affidavit that computer personnel could swear to confirm the validity of a computer printout.

While this is an extremely readable and informative book, the authors may have gone slightly overboard on the court case section, which they clearly enjoyed writing. There is a danger that informative content may be trivialised by a flippant approach.

Despite this, however, it is still a very useful book packed with valid information for which there is a growing demand.

*M. McL.*

# Intensive parallel processing

Parallel Processing Systems. Edited by David J. Evans. Cambridge University Press. £21.00.

COMPARED with the body of knowledge and experience relating to serial, von Neumann type computers and their operations, information on parallel processing borders on the non-existent.

This work is a summary of the intensive course in parallel processing given at Newcastle University in September 1980.

It is succinct, clear, fascinating but in places all too predictably complex.

With at least one Japanese micro company determined to introduce a desktop array/parallel processor, and machines like the ICL Perq becoming increasingly common, no good analyst or programmer should be without a working knowledge of this topic.

Professor Evans' compilation is a thoroughly useful, if advanced, starting point.

*K. C.*

# Teach Yourself book gets right to the point

Computer Programming in Cobol. Melinda Fisher. Teach Yourself Books, Hodder and Stoughton 1982. £2.95.

TEACHING yourself Cobol today would be a bit like learning to make fire by rubbing two sticks together, were it not that most of the data processing world is committed to the language like a prisoner to a cell.

However, there was a shortage of cheap and readable paperbacks on the topic and, although no one can really become a programmer by studying a textbook, no doubt plenty of beginners will be enabled by this to get into the subject and a number of old hands will be pleased to have a lightweight reference work close to the elbow.

Melinda Fisher had practical experience in the industry before moving on to head ICL's teaching team. Her English is simple and clear; and she gets right to the point.

Having at page one assumed no previous knowledge she takes us on by page 28 to discuss verbs. Quizzes are thrown in to make sure the reader has been paying attention and these give a quick introduction to the art of debugging.

The chapter on indexed sequential files – obviously a vital one these days – is especially well put over. The author explains, as some other manuals do not, that a programmer is not just a coder but has a variety of other troubles to face up to, not the least of which is interpreting specifications.

The sequence in which subjects are introduced seems unusual, but there is nothing like classroom experience for a tutor to find out in what order to tackle things.

The book is a vast improvement on some of those manufacturers' and systems houses' manuals which are like wading through glue. And, for beginners, let us just say that if you have managed to run a modern washing machine from the accompanying blurb, Cobol will be a piece of cake to you.

If Ms Fisher achieves nothing more than to help these new readers make up their mind whether a career in programming would suit them, then it will have been worthwhile.

*G.B.*

# Gulf between thinker and thinking doer

Machine Intelligence and Related Topics. Donald Michie. Gordon and Breach.

DONALD Michie is an example of that odd phenomenon of our age, a communicating thinker. He writes provocatively, with panache. He often achieves success in presenting the weighty in a way those uninitiated in the ways of artificial intelligence can understand.

But remembering the BBC programme in which it was pointed out that Michie's model expert system did not work, or rather did not perform a useful task at an economic cost, one is reminded of the flaw in the thinker's world.

Michie's book is described as an information scientist's weekend book. This is an engaging form of self-deprecation, which does not always succeed.

It is well written, engaging, even if it suffers slightly from the intensity of Michie's own perceptions, and from the sheer information density of the topic.

He leads into the subject by recounting a little of the life and work of Alan Turing, the theoretical creator of the modern digital computer.

Turing was not particularly trying to build a computer. He was trying to solve a problem in mathematics. From those early days, in which Michie himself was a participant, the book takes us on into the likely shape of things to come, when we have discovered how to embed intelligence in computers.

Michie discusses, in far too short a page, the computer-aided diagnostic system invented by Tim de Dombal in Leeds, and reveals the gulf between the thinker and the thinking doer.

Michie compares a diagnostic system which gives accurate diagnosis to occasional levels of 91%, with a medication counselling system which does not have either the same functions or objects, and is more difficult to monitor.

The criticism Michie makes is that de Dombal's system is too simple. It's not complex enough. What is overlooked is that it works.

But a small carp about a good book.

*K.C.*

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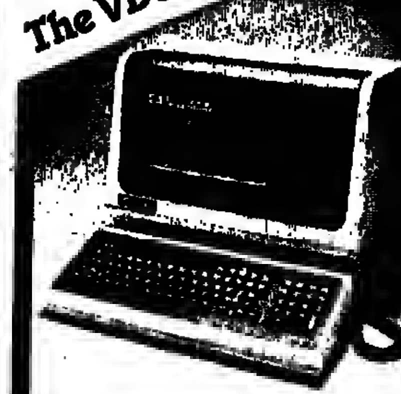
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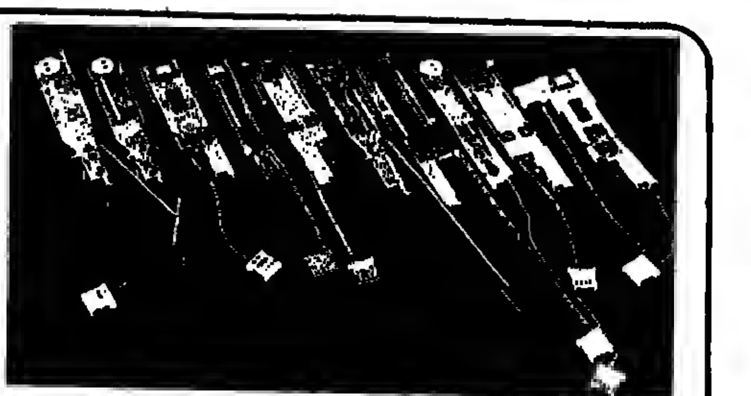

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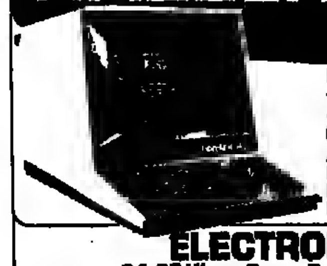

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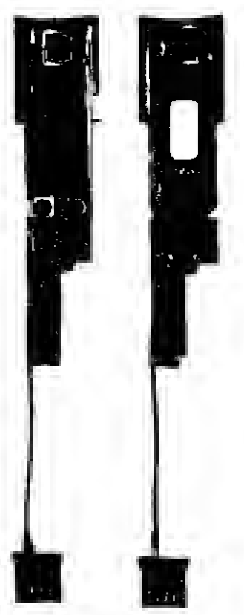

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**(Agy N298)**

(2018)

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**circa £7,500**

Required for twin IBM System 34 installation in North Hertfordshire.

Applicants should have a minimum of one year's RPG2 programming experience, preferably on System 34. An appreciation of MAAPICS software would be advantageous though not essential.

**Please write initially to: Mr. R. P. Farr, Director of Personnel, Shelvoke and Drewry Ltd, Icknield Way, Letchworth, Hertfordshire SG6 1EN.**

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For further details and an application form please telephone or return the coupon below. Initial interviews can be held up to 8.00pm each evening, and on Saturday mornings by appointment.

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(2010)

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*Applications should be received by 31st December and interviews will be held in London in early January.* (1910)

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Application forms, obtainable from Chief Personnel Officer, Cathcart House, Spean Street, Glasgow G44 4BE (quoting reference 27/98/82) should be returned by 5th January, 1983, together with a full cv of technical experience.

(1989)

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(2029)

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# TO ALL OUR ADVERTISERS

The first issue of 1983 will be published on January 6. Copy deadline is Friday, December 31, at 4.30 p.m. — full artwork can be accepted up until 10.30 a.m., Tuesday, January 4. To book space telephone:

**DIRECT CLIENTS: 01-661 8080**
**CONSULTANCIES: 01-661 8787**

We at Computer Weekly would like to wish all our readers and advertisers a happy Christmas and a prosperous New Year.

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The successful applicant must be prepared to travel extensively and to work to very tight schedules. Among the benefits of the position are extremely long holidays and a free uniform.
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(2023)

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(2024)

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Eric Oldham and Paul Tomkins

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(2022)

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THE ASSOCIATED EXAMINING BOARD

# Programmer

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We have a vacancy for an experienced COBOL Programmer to join a small team currently engaged in the development of Database routines for the administration of public examinations. A variety of accounting routines is also being developed as part of a comprehensive programme to improve the Board's computer systems. A Honeywell Level 64/DPS computer with a range of peripherals, OMR equipment and local communications facilities is in use for this purpose.

Applicants should have at least two years' COBOL programming experience, ideally in a medium systems environment. (Applicants having less experience would be appointed to a lower salary scale.) Knowledge of the 64DPS with TDS and IDS would be of considerable advantage.

The basic salary scale is £6,833 rising by six annual increments to £8,147 per annum, for a 35-hour week. There will be a considerable amount of overtime working for at least the next two years. Overtime is paid for at 1½ to 2 times the basic hourly rate. There is a contributory pension scheme and other benefits include luncheon vouchers, free car parking, 28 days' annual leave and a subsidised staff restaurant.

Application forms may be obtained from the Personnel Manager, The Associated Examining Board, Wellington House, Station Road, Aldershot, Hampshire (Tel: Aldershot 25551), to whom they should be returned, marked 'Private and Confidential,' not later than Friday, January 7, 1982.

(The Board's offices will be closed for the Christmas break from midday on December 24, 1982, to January 3, 1983, inclusive).

(2034)

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# COMPUTER ENGINEER

A vacancy exists for a person to build digital PDP11 systems in-house and will also be required to assist in our board repair department

DEC experience is absolutely essential

Salary negotiable

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(2021)

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A minimum of 3 years' Fortran experience is necessary for these senior positions, preferably gained in a minicomputer environment. The positions offer excellent career prospects within a fast expanding company and would involve some travel.

Onstream is an international project management consultancy with offices throughout the world, servicing the needs of the offshore oil/gas, petrochemical, civil and metallurgical industries.

Resumes should be sent in confidence to:

Mr. M. J. Robb
ENERGY COMPUTING
160-164 Mortimer Street
Herne Bay, Kent, CT6 5DU

(2032)

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UMIST

# RESEARCH ASSISTANTS

Applications are invited for two Research Assistant posts in the Department of Computation. The posts are for three years and are funded by SERC. The appointees will work on the design of a programmer workbench to assist with commercial program design. The computers used will be ICL Perqs which are single-user, high-resolution graphical machines. Applicants should have a good honours degree in Computing, or some equivalent qualification, or significant relevant experience. Knowledge of COBOL, PASCAL and the Michael Jackson program design technique will be a distinct asset.

Salary will be in the range £5,550-£11,105 per annum.

**Applications, quoting reference COM/147/BC, and including a full c.v., should be sent to B. J. Edwards, Department of Computation, UMIST, P.O. Box 88, Manchester M60 1QD, by January 4, 1983.**

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# OVERSEAS

# ICL Programmers and Analysts

P-E Computer Services Limited is prime contractor and the largest supplier of outside DP resources to Kuwait's premier oil and petroleum company.

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If you would like to be considered for a position in our team please write to your nearest P-E regional office enclosing a full and current cv. Appointments are single status, and generally on a six to twelve months renewable contract basis.

## P-E Computer Services Limited

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contact: Geoff Mackenzie Tel: (0784) 34411
Winchester House, Fountain Street, Manchester M2 2EF
contact: Peter Moore Tel: 061-228 2776
Lennig House, Masons Avenue, Croydon, Surrey CR0 9XS
contact: Paul Davis Tel: 01-680 7583

PE

(1983)

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NEWCASTLE UPON TYNE POLYTECHNIC

# MANAGER

– MICROSYSTEMS CENTRE

The Department of Industry has made funds available to ensure that Microsystems Centres along the lines of the NCC Microsystems Centre of London, are available throughout the UK. This is to be effected by setting up a Federation of Microsystems Centres supported by the DoI and administered by the National Computing Centre.

The DoI has approved the establishment of a Microsystems Centre at Newcastle upon Tyne Polytechnic as a member of the Federation which has the overall aim of providing an impartial service to the local business community in the selection and use of microcomputers.

The DoI has provided initial funding for 2 years and applications are invited for the post of Manager of the Microsystems Centre. This post is to be filled as soon as possible (a secondment would be considered).

Burnham FE PL: £11931-£13290 (bar) – £15018 per annum.

For further details and application form returnable by 7th January, 1983, please call our 24-hour telephone answering service (0632 323128) or send a stamped addressed envelope to the Personnel Officer, Newcastle upon Tyne Polytechnic, Ellison Building, Ellison Place, Newcastle upon Tyne NE1 8ST.

(2008)

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DEPARTMENT OF COMPUTING SERVICES

# APPLICATIONS PROGRAMMER

(CLIFTON SITE)

£5352-£8325

The successful applicant will join the Applications team of six which is involved in writing, maintaining, installing and advising on applications programs. The post provides a focus for the team's responsibilities at the Clifton site and is involved with the daily running of the facilities at the Clifton site. The post combines approximately three days a week at the Clifton site with the remainder at the City Centre. The main languages in use are Fortran, Basic, Cobol and proficiency in using packages such as Ghost, NAG, Calcomp, Gino, SPSS, Part and Database Systems would be desirable. The range of work covers most subject areas taught at the Polytechnic (Business, Humanities, Science, Engineering).

The ability to communicate effectively with both the inexperienced and experienced user is paramount as the Department provides a consultancy service to students and staff throughout the Polytechnic.

Further details and form of application from the Staff Officer, Trent Polytechnic, Burton Street, Nottingham NG1 4BU. Closing date 30 December, 1982.

(1988)

TRENT
POLYTECHNIC
NOTTINGHAM

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GLOS CONTRACT

# SYSTEMS ANALYST

DEC ★ VAX experience

ABLATIVE LTD
Bristol (0272) 877550

(2015)

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# Computer Auditor

£9,960-£11,031 p.a. (incl.)

Applications are invited for this new post within the Audit Section of the Financial Services Department from persons with experience, initiative and enthusiasm necessary to develop and carry out Computer Audit for a consortium of three districts (which includes the neighbouring Boroughs of Runnymede and Surrey Heath) whose full computer services are provided by Woking Borough Council. The successful applicant would be expected on occasions to report direct to the Chief Officer of the individual authorities.

In January 1983, the Council are upgrading the mainframe to an ICL 2958 and taking delivery of DRS equipment to extend the existing communications network to provide a distributed processing facility including a terminal for audit purposes. Many new systems have been implemented over recent years, including a powerful financial information system.

Applicants for the post should have a thorough practical knowledge of data processing, hold a relevant senior position and a be a member of the British Computer Society. A recognised qualification in accountancy would be an added advantage.

Temporary housing will be available up to one year in approved cases along with generous removal and disturbance allowances together with legal fees on house purchase up to £1,500. Candidates should have transport available for Council business for which an essential user allowance is payable.

Please contact the Chief Personnel Officer, Council Offices, Woking, Surrey (04862 5931 ext 171) for an application form and further details.

Closing date: January 4th, 1983.

**Woking**
BOROUGH COUNCIL

(1997)

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Applicants must be prepared to work hard in a competitive business which rewards effort and application.
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(1906)

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University of Exeter
Administration Data Processing Unit

Applications are invited for the post of

# Temporary Programmer

to assist in developing on-line database systems on a Hewlett Packard 3000/44, for the Administrative Departments of the University, using COBOL, IMAGE, V/3000 and QUIZ.

The appointment, to commence as soon as possible, will be for one year in the first instance, with the possibility of re-appointment for one further year. The salary will be within the range £6,375-£9,000 per annum, with placement dependent on relevant qualifications, age and experience.

It may be possible to arrange hours to suit applicants who are only able to work on a part-time basis.

Letters of application (4 copies) including the names and addresses of two referees, should be sent to the Personnel Office (Appointments), Northcote House, University of Exeter, Exeter, Devon EX4 4QJ by 14 January, 1983, quoting reference number 3282.

Informal enquiries should be directed to the Data Processing Officer (Exeter 77911 ext. 549).

(2016)

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THE UNIVERSITY OF MANCHESTER
Department of Computer Science

Applications invited for industry-supported

# RESEARCH ASSISTANTSHIPS

In the above department

The posts will relate to several projects, involving system software for micro-computers and larger mainframe computers. Candidates should have a good degree and relevant systems programming experience in research or industry. Preference will be given to candidates with a specialised knowledge of the Unix operating system and/or Motorola 68000 and Zilog Z8000-based micro-computers. Posts tenable for three years. Salary range p.a.: £6,375-£11,105 (Superannuation).

Apply with Curriculum Vitae and names of two referees as soon as possible to: Dr. C. J. Theaker, Department of Computer Science, The University, Manchester M13 9PL.

(1990)

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UNIVERSITY OF LONDON
INSTITUTE OF EDUCATION

# PROGRAMMER B

Senior programmer required to organise and run Institute's computing services within Department of Mathematics, Statistics and Computing. Activities include provision of introductory courses, advisory support to staff and students and development of program library. Supervision of one junior programmer and a computer operator.

The Institute is linked to central university computers via a PDP-11 minicomputer. Familiarity with Unix and the C programming languages highly desirable, experience in statistical computation an advantage. Applicants will need minimum of 2 years programming or advisory service experience.

Salary within range £6375-£11,105 plus £1035 London Allowance.

Further particulars and application forms from Mary Griffin, 636-1500 extension 254 or write to her at University of London Institute of Education, 20 Bedford Way, London WC1H 0AL. Closing date for completed applications 14 January for interview on 27 January, 1983.

(1991)

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# CHRISTMAS CRACKERS!

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| North Yorks | Analyst/Programmer – Honeywell preferred | to £9,000 |
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| West Yorks | Systems Analysts – range of possibilities | to £10,500 |
| Yorkshire | Project Leader – on-line retail systems | to £11,000 |
| Leeds | IBM Cobol Programmers – CICS useful | from £7,500 |
| West Yorks | Analyst/Programmers – IBM Cobol | to £8,500 |

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| Manchester | DOS/VSE Systems Programmer | c. £10,000 + car |
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| Preston Area | IBM or ICL Analysts, Analyst/Progs, Progs | to £10,000+ |
| Manchester Area | Analyst – Variety of interesting positions | to £11,000+ |
| North West | Real-time Progs, CORAL FORTRAN, ASSEMBLER | to £10,000+ |
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| Manchester | IBM, ICL, UNIVAC, H/WELL, MINI/MICRO Progs | to £10,000 |

*For further information about these superb opportunities, and an early and convenient interview appointment (over the Christmas break, if need be), ring Arnold Sampson (NW jobs) or David Swann (NE jobs) on one of the numbers below (transfer charges if necessary).*

(2018)

**Sampson Staff**
COMPUTING & ACCOUNTANCY RECRUITMENT

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Tel: Office — 061-832 4184 (24 hours)
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CHELSEA BUILDING SOCIETY

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Chelsea Building Society with assets in excess of £320m. and 54 branches invite applications for a Systems Manager.

Salary will be paid in accordance with previous experience within the range of £9,770 and £12,760. Prospects are extremely good to progress further within the organisation. Benefits include staff mortgage scheme, private house scheme, car allowance and where appropriate relocation expenses.

The successful applicant will be located at the Society's Administration Headquarters in Cheltenham and will be responsible for establishing and running a small development team working on a Real Time, branch alternation terminal system. The Society's plans call for a person with good communication skills, both written and verbal. Drive and enthusiasm are essential and the person should be capable of working under pressure and meeting agreed deadlines.

Applicants will ideally have a sound Systems Programming background, preferably using NCR equipment. Preference will be given to applicants with Neat 3/COBOL experience. The society is currently using an NCR 8565M computer under the BRX operating system.

Please apply to:
Mrs. M. Campbell – Personnel Officer
CHELSEA BUILDING SOCIETY
Administrative Headquarters
Thirlestaine Hall
Thirlestaine Road, Cheltenham, Glos., GL53 7AL
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(2030)

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- ★ VME SUPERSTRUCTURE – Technician (Manchester)
- ★ IDMS, TPMS, VME/B – Systems Trialists (Manchester)
- ★ TPMS, Technical Support (Manchester)
- ★ IDMS VME/B – Technical Author (Manchester)
- ★ VME/B, COBOL, IDMS – Programmers (Bedfordshire)
- ★ DOS/VSE, CICS, VTAM – Analyst/Programmer
- ★ HP 3000, IMAGE, QUERY, COBOL – Programmers
- ★ ANY FORTRAN, 2 YEARS' EXPERIENCE (2-YEAR CONTRACT) – Programmer
- ★ TI 9900 REAL TIME PASCAL, ASSEMBLER – Engineer
- ★ LARGE BURROUGHS, COBOL, DMS – Analyst/Programmer
- ★ VAX 11/780 VMS COBOL – Programmers
- ★ SYSTEM 38 RPG3 – Programmers and Tuners
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- ★ STRONG FORTRAN, MINIS, GEOPHYSICAL MAPPING – Analyst/Programmer
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- ★ DB DESIGN IDMS & ADS – Technical Project Leader (Midlands)
- ★ OS/JCL COBOL – Programmers
- ★ MVS, CICS, COBOL, DL/1 – Analyst/Programmers
- ★ MVS/OS, BATCH, DL/1 – Programmers
- ★ MVS/OS, CICS, DL/1 – Software Engineers
- ★ VM/DOS and/or VTAM – Systems Programmers
- ★ APL and/or MICRO BASIC & PASCAL – Programmer/Analyst (Scotland)
- ★ ICL TPMS/IDMS – Systems Designer
- ★ VME/B IDMS – Programmers (Manchester)
- ★ VME/B IDMS – Designer (Johannesburg)
- ★ MINI ASSEMBLER – Senior Programmer
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*Please contact LORRAINE, MERVYN or FRANK*

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| ★ RPG2 PROG. & BANKING | EAST LONDON | NEG. | Ref: 232 |
| ★ DOS/VSE OPERATOR | WEST LONDON | £5,500+ | Ref: 222 |
| ★ IBM ANALYST/PROGRAMMER | MIDDLESEX | to £13,000 | Ref: 209 |
| ★ MVS SENIOR OPERATORS | MIDLANDS | c. £8,000 | Ref: 220 |
| ★ JUNIOR IBM SYSTEMS PROGRAMMER | WEST LONDON | Neg. | Ref: 211 |
| ★ CHIEF OPERATOR – PDP/VAX | ESSEX | c. £8,000 | Ref: 230 |
| ★ CHIEF PROGRAMMER – HP 3000 | C. LONDON | V. GOOD | Ref: 231 |
| ★ MVS/JES2 (+ OS/VS1) OPERATOR | W. LONDON | £8,500 | Ref: 221 |
| ★ IBM SYS 34 SENIOR OPERATOR | MIDDLESEX | £7,500 | Ref: 216 |
| ★ IBM SYS 34 SYSTEMS ANALYST | EAST LONDON | NEG. | Ref: 233 |
| ★ DATABASE ANALYST – DOS/VSE COBOL, CICS, DL/1 WITH BANKING EXPERIENCE | EAST LONDON | NEG. | Ref: 234 |

*Please contact JAYNE or KEITH*

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- ★ MVS JCL WRITER
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As a company with vast resources, they are in an excellent position to offer a rewarding return on an investment of time, experience, and commitment, and therefore a worthwhile opportunity for personal advancement can be realised.

## VME Software Support
### Salary negotiable

With good experience within ICL 2900 VME environments coupled with at least a 2 year exposure to COBOL and possibly FORTRAN. Duties will encompass support of operating system, and superstructure software through hands on involvement and the supervision of a small VME team. Consequently skills/in project planning and team leadership are highly desirable, as are telecomms and database experience.

## TP/Database Software Support
### Salary negotiable

To provide an efficient support interface between applications development and technical personnel. A knowledge of COBOL and preferably FORTRAN is required to enhance a sound background in TP and Database technology (preferably IDMS and RAPPORT).

These positions hold an exciting challenge for career minded individuals and an excellent package of salary and benefits (to include bonus, non-contributory pension and medical aid) will be available. Full assistance with relocation to South Africa will be offered including 3 months initial accommodation in a furnished flat, and every effort made to ensure a happy landing at Jan Smuts Airport.

Life in South Africa can be extremely rewarding, with a high quality of lifestyle coupled with reasonable living costs.

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| INTERNATIONAL | | |
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| Assembler, DOS/VS | Programmer | Paris |
| COBOL, ICL 2900, VME/B | All levels | Kuwait |
| FOCUS, RAMIS or NOMAD | Analyst/Programmers | USA |
| **U.K.** | | |
| COBOL, IMS/DB and/or DC, ADF | Programmers<br>Programmer/Analysts | Home Counties; Worcestershire; Essex |
| COBOL, WANG | Programmers | London |
| IMS/DB | Database Administrator | Home Counties |
| VM or MVS | System Programmer | London |
| COBOL, ICL ME29, IDMS | Programmer | Oxfordshire |
| COBOL, ICL2900, VME/B | Programmer | London |
| PASCAL, T.I. | Programmer | Bedfordshire |
| FORTRAN, BASIC, ALGO | Project Leader/ Analyst/Systems Engineer | Cheshire |
| ADABAS, NATURAL | Programmer/Analyst | London |
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| ASSEMBLER and/or COBOL, CICS | Programmers, Programmer/Analyst | London |
| RPG II S/34, Mapics | DP Manager | London |
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For more information please contact:

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(2002)

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Two Computing Officer posts are available, initially for one year, one in each of the following areas:

**MAINFRAME PACKAGE CONVERSION**
**STATS/GRAPHICS**
**APPLICATIONS ON MICROS**

Salary probably in the range CO1 (£5,550-£8,085) or CO2 (£5,375-£11,105), but might be higher for suitably qualified candidates. Applications are welcome from individuals wishing to work part-time. Further particulars may be obtained from the Secretary to the University, Old College, South Bridge, Edinburgh EH8 9YL, to whom applications should be sent together with the names and addresses of two referees.

Please quote reference No. 7015.

(2022)

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The University of Sheffield
MRC/SSRC

Social and Applied Psychology Unit

**Research Programmer**

Applications are invited for the above post tenable from 1st February 1983 for 2 years, to work with Dr T. R. Green on an SSRC-Funded project for developing programme support for cognitive and experimental psychology. The project includes a programming language, based on the artificial intelligence language POP-2, + Basic packages for graphics, linguistics, statistics and a small production system interpreter, and is to run on laboratory micros. Knowledge of C useful, also some acquaintance with expert systems, concurrent programming or computational linguistics.

Initial salary in the range £5,550-£5,960 a year on Grade IB.

Details from Dr T. R. G. Green MRC/Social and Applied Psychology Unit, Department of Psychology, The University, Sheffield S10 2TN, to whom applications should be sent as soon as possible quoting reference R769/SB.

(2020)

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*Please contact LORRAINE, MERVYN or FRANK*

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| Assembler, DOS/VS | Programmer | Paris |
| COBOL, ICL 2900, VME/B | All levels | Kuwait |
| FOCUS, RAMIS or NOMAD | Analyst/Programmers | USA |

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| COBOL, IMS/DB and/or DC, ADF | Programmers<br>Programmer/Analysts | Home Counties;<br>Worcestershire;<br>Essex |
| COBOL, WANG | Programmers | London |
| IMS/DB | Database Administrator | Home Counties |
| VM or MVS | System Programmer | London |
| COBOL, ICL ME29, IDMS | Programmer | Oxfordshire |
| COBOL, ICL2900, VME/B | Programmer | London |
| PASCAL, T.I. | Programmer | Bedfordshire |
| FORTRAN, BASIC, ALGO | Project Leader/<br>Analyst/Systems Engineer | Cheshire |
| ADABAS, NATURAL | Programmer/Analyst | London |
| COBOL, HP3000 | Programmers | London |
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**The University of Sheffield**
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**Social and Applied Psychology Unit**

### Research Programmer

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**Telephone: Oxford 64861 Ext. 246/268.**
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(2006)

**Oxford Regional Health Authority**

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**Experience to date: (Last Position First)**

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|---|---|---|---|
| | | | |
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| PRIME, FORTRAN | Programmers – Kuwait |
| PASCAL | Analyst Programmers Brussels |
| PRIME, BASIC | Programmers – Brussels |

## ICL

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|---|---|
| VME, IBMS | All Levels |
| ME29 TME COBOL | Programmer |
| ME 29 TME TP | Analyst Programmers |
| SYS 25 | Designers |
| VME TPMS | Designers |

## IBM

| | |
|---|---|
| COBOL CICS, DL1 | Programmer Analysts |
| OS MVS COBOL | Analyst Programmer |
| IMS DB DC COBOL | Analyst Programmer |
| PL1, JSP + IMS DB | Programmers |
| DL1 CICS | Systems Analyst |
| OS/MVS | JCL Writers |

## OTHER REQUIREMENTS

| | |
|---|---|
| HP 3000 COBOL | Programmers |
| NCR IMOS COBOL | Programmers |
| H66 DM4, IDS2 COBOL | Programmers |
| OLIVETTI ASSEMBLER | Analyst Programmers |
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(REF X.17)

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This post has arisen as the result of the secondment of members of the Department to specialist units within the Polytechnic – the Microcomputer Advisory Centre, and the Knowledge-Based Systems Centre. It is possible that the post may be renewable.
Salary will be in the range:
Lecturer, Grade II: £7,689 (X10) – £11,856 p.a.)
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both scales inclusive of London Allowance.
It is hoped to appoint a suitable candidate to this post as soon as possible and so EARLY APPLICATION IS ADVISED. Further details of the Department and its activities together with an application form may be obtained from the Staffing Office 01-928 8989 Ext 2355.
(1926)

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COUNTY TREASURER'S DEPARTMENT
POLICE COMPUTING

South Yorkshire Police are continuing to expand the use of computer facilities and a new team of civilian computer officers is to be appointed to assist the force with the management and use of computer systems. The team will be members of the County Treasurer's Staff but will be seconded full-time to the Police Headquarters, Snig Hill, Sheffield.
Applications for the following posts are invited from people of sound technical and practical experience and with the desire to help the police force undertake their many duties.

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Salary up to £12,174 (Grade PO1C)
Post Ref. T310

The Team Leader will liaise with a designated senior police officer to ensure that appropriate advice and support is provided. Applicants should be able to demonstrate sound management skills, wide technical experience and personal maturity. Experience of working in a disciplined environment or within the computer service industry may be an advantage.

## Systems Analyst/Programmer

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Post Ref. T312

## Computer Programmer

Salary up to £7,545 (Grade AP3/4)
Post Ref. T313

To assist the Computer Officer in the development of applications and the maintenance/enhancement of existing dedicated systems. Experience of assembly language programming and knowledge of data general systems will be an advantage.

## Computer Room Supervisor

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Post Ref. T314

The successful applicant will be responsible for the planning, organisation and day-to-day control of computer equipment. Applicants should be able to demonstrate a sound practical experience of computer operational procedures and should be able to liaise with hardware servicing agencies, computer staff and end users.

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Experience of using a full-Alpha keyboard and a knowledge of filing systems as basic requisites for this post. The duties will include control and maintenance of systems documentation.
Please write or telephone for n application form, quoting the appropriate post reference to the Chief Executive (Personnel), South Yorkshire County Council, County Hall, Barnsley S70 2TN. Telephone: Barnsley (0226) 86141 ext 266.
Closing date for applications: 1th January, 1983.
*South Yorkshire County Council is an equal opportunities employer*

**South Yorkshire County Council**
SETTING THE PACE
(2005)

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(1930)

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For further details and application form apply to:

Chief Administrative Officer
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College of Arts and Technology
Medina Way, Newport
Isle of Wight, PO30 5TA
Closing date: December 31, 1982
(2028)

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(2011)

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**APPLICATIONS PROGRAMMER**

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Further particulars may be obtained from the Registrar and Secretary, University of Bristol, Senate House, Bristol BS8 1TH, to whom applications should be sent by 7th January, 1983 (please quote reference EB).
(1986)

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Apply in the first instance to:
The Personnel Officer
Penny & Giles Computer Peripherals
Christchurch Dorset BH23 4AT
Tel: Christchurch (0202) 47761
(2004)

## SALES BIT

### Quality of Management — 35

# An occasional success is better than a regular bore!

SALES meetings inevitably involve some routine matters that are rarely particularly exhilarating. The sales meeting is often a convenient occasion to distribute information to the salesforce, especially administrative matters — but such topics must be kept to an absolute minimum and free from individual personal or client issues unless they provide interesting examples from which everyone can learn.

It is essential to ensure that the sales meeting is an entertaining and stimulating occasion from which all participants increase their knowledge and go away with their enthusiasm rekindled.

This is not easy to achieve. It is, therefore, far better to have occasional but highly successful sales meetings than to have frequent uninspiring and apparently pointless gatherings.

Over the past two weeks I have presented some ideas for the kinds of events around which sales meetings can be built so as to provide a nucleus that is both informative and entertaining.

Here are a few more ideas.

It may sound dreadfully boring, but a presentation on the financial implications of purchasing can be both interesting and informative. It can also provide a powerful lever for increasing sales success. Without any doubt, you need a well-informed speaker who has real fluency in the topic. Whether he or she is from inside or outside the company is irrelevant.

The whole fabric of finance can be a fascinating topic if presented knowledgeably and enthusiastically — where money comes from, how it can be obtained, where it goes to, how it can be paid, the relevance of profitability and cash flow, the implications of getting it wrong, and so on. Then there is the more directly pertinent topic of purchase/lease/rent — which is the most appropriate.

A greater awareness of which method of financing is likely to be most appealing in a given company, economic climate or in the context of government legislation can give the salesperson an edge which could be the difference between winning and losing.

All the subjects I have mentioned up to now are in reality forms of sales training, albeit away from the mainstream of basic technique.

It is therefore an obvious extension to introduce refresher sessions in basic selling techniques. In the past, I have worked for companies which would not dream of having a sales meeting without devoting some time to a chosen aspect of the selling process. And very valuable it was too, in both the short and long term.

Okay, a large proportion of the meeting would moan at the prospect of being involved in a session of, say, "overcoming objections" but once things got under way (usually in the form of a role-play session with the participants selected well in advance) everyone appeared both to enjoy the action and appreciate its connotations.

Such sessions need not dominate an entire meeting, they can easily fit around some other main event. Topics like "The do's and don'ts of telephone prospecting", "Pre-call preparation", "The structure of the sales letter", and so on, can be limited to just a few minutes.

On the other hand it may be appropriate to spend a significant amount of time on a particular subject if it is thought that a problem has been identified affecting the salesforce as a whole — like the introduction of a new product by the competition, or change in government legislation, failure to close a particular kind of business, and so on.

In such cases, role playing can be particularly valuable, especially if the participants are well chosen and well rehearsed. There are several approaches to this method of training. There is the normal role-play where one participant plays the part of the client and the other the salesman.

This usually serves to highlight above all else the kinds of objections that might be presented and how they might be overcome. However, this is a medium which depends greatly upon spontaneity for its success and therefore can be based only on a structure rather than a script.

One alternative is to turn the role play into a comedy sketch by first doing a version in which the salesman deliberately does everything wrong, followed by another where he gets it right. This usually has the effect of getting all the important points across while providing some interesting entertainment. However, this can only be done effectively with the use of a pre-written script. In some circumstances a mime to an already recorded type of dialogue can be a more acceptable alternative to the non thespians.

The real value of role-playing, like most special events within the sales meeting, is the comment and questioning that must be encouraged afterwards.

*Alan Williams*

## COURSES

APAK Systems is holding a series of training courses in dBASE II for both beginners and experienced users.

It starts in February and costs £360 + VAT. The course lasts for three days and will be held in Bristol. Details (0272) 27289.

## PUZZLE ANSWER

THE area of the farm is 43,560 acres, and the fence contains 43,560 rails. This figure also equals the number of square feet in a single acre.

ComputerWeekly

Thursday, December 16/23, 1982

# Europe's giants clinch R&D deal

**by Philip Hunter**

EUROPE'S two electronics giants, Dutch Philips and German Siemens, have joined forces in long-term information technology research and development.

The two companies spend a combined £1.5 billion a year on R&D. Their initial outlay in backing the EEC call for a $400 million strategic plan, Esprit (European Community's Strategic Programme on Research and Information Technology), is $3.7 million and 50 scientists.

A Philips spokesman said that closer co-operation could follow. Both companies stress that short-term product development – less than five years – is excluded from the current agreement and that the companies will remain rivals.

The deal is aimed specifically at products related to the computer industry, and includes semiconductors, microelectronics, computer-aided design and speech recognition.

This is the fourth in a series of joint deals that Philips has started this year. It has concluded a second source agreement with US micro maker Intel for its CMOS chip, with Intel to get consultancy advice from Philips on communications structures for its microcomputer.

The Dutch giant is holding talks with German electronics firm Grundig, in which it holds a 24.5% share.

The French State-owned company Thomson-Brandt is trying to take over the remaining 73.5% of Grundig but is opposed by Philips.

And Philips is currently talking to US telecommunications giant AT&T "about a new joint venture in the field of telecommunications," a Philips spokesman said.

Siemens said that its deal with Philips would have its quickest impact on its power engineering division which is developing micros for computer-aided design and manufacture, but that its data processing division, which makes the Siemens mainframe, would not be directly affected.

Philips expects the Siemens agreement to benefit future versions of its recently announced micro.

# US firms back Ethernet standard

**by Donald Kennett**

THIRTEEN US companies have echoed the European Computer Manufacturers' Association initiative in June by endorsing the Ethernet local area network standard in its latest draft form.

In June, ECMA got 20 companies – many of them American – to back its version of Ethernet, even though another version was already being processed through the US Institute of Electrical and Electronic Engineers.

Since then the IEEE has worked closely with ECMA and Xerox, which originated the Ethernet system in the early 1970s, so that all three have agreed on the same version.

IEEE working group chairman Don Loughry of Hewlett-Packard said that all three parties had agreed to minor changes in their specifications, and the IEEE draft document now contained precise technical details which had only been described in general terms before.

An October meeting of the full IEEE 802 local area networks committee had given a 94% vote of approval to a draft, which had since been tidied up to remove inconsistencies, address the objections of the remaining 6% and make the details precise, he added.

The draft will now go through three levels of the IEEE hierarchy before it emerges fully rubber stamped from the IEEE standards committee meeting in June or September. But the institute plans to make the revised documentation available after it is ratified by the computer communications technical committee in January.

ICL, which was a major backer of the ECMA agreement in June, welcomed the news from the US as a significant step towards Open Systems Interconnection at the link level.

Support was also gathering behind a draft proposal being put to the International Standards Organisation which described a protocol for the Transport Level of ISO's seven-level interconnection model, a spokesman said.

CURRYS – *"400% leap took us by surprise," but "temporary shortages only, from week to week".*

# Santa is clean out of micros

**by George Black**

MANY who have been looking forward to a home computer as a Christmas present could be disappointed. For suppliers have seriously underestimated their appeal and now find themselves unable to keep up with the demand.

Phillip Denyer, micro buyer for Laskys, said: "It is true that there is a general shortage right across the board. In particular there is a problem with getting the Atari 400 and the Commodore Vic 64 to meet customer demand.

"We expect to be about 500 short of each model round the whole country this Christmas."

Laskys stopped taking orders for the Vic 64 in early December because it knew it would not be able to deliver before the holiday. However, it was hoping to catch up with requests for the Atari by the middle of January and for the Vic 64 by late February.

A spokesman for W. H. Smith reported a similar picture: "We aren't going to have enough Sinclair Spectrums and ZX81s to fulfil the requests from our branches."

Only 60 branches of Smith's stock the Spectrum anyway, he pointed out, but the ZX81 is normally available nationwide.

Nigel Searle, for Sinclair, said ZX81s were being manufactured at a rate of 10,000 a day and it was planned to boost production early in 1983 either at one of the two present plants or by starting a new one.

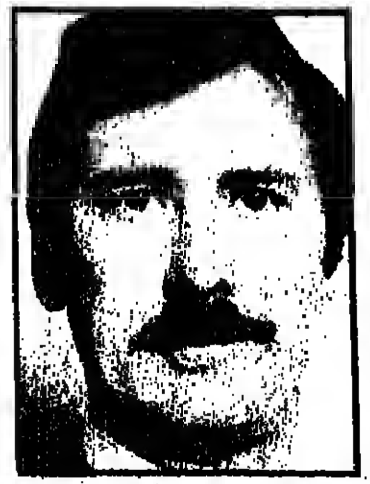
He thought there would be half a million Sinclair home computers in British homes by February. The addition of the new microdrive to the Spectrum in the first quarter of the year would help boost sales further still.

But he admitted: "There will be a shortfall, which we hope to catch up on soon after Christmas."

Atari's spokesman said: "The market is expanding very fast and there has been a very high demand for our computers. We are working flat out to supply all our outlets and sending out the machines as fast as we can."

At Currys the story was of "temporary shortages only, from week to week", but the spokesman said that the company had been taken by surprise by the high level of demand in the shops. It had gone up by 400% in the previous month.

And even leaving Christmas out of the reckoning it appeared that demand was likely to be at a far higher level from now on. Blockages seemed to have occurred mostly at Customs, since most were being imported.



*FAIRBAIRN . . . No charge.*

# Sick pay revamp—to charge or not

**by John Kavanagh**

SHOP around for payroll packages: that is the message to users from the market as software houses and bureaux take different views on charging for the changes needed to handle new sick pay legislation.

The new rules put greater onus on employers to keep track of employees' sick days and work out how much sick pay should be paid. Users and package suppliers alike say the legislation means massive changes to payroll systems.

But the suppliers are split on whether to charge for the changes. Two of the leading package suppliers, MSA and PPL Cyborg, say they are providing all the necessary upgrades at no charge as part of normal maintenance agreements.

But another, Peterborough Software, says many of the functions demanded by the new rules relate not to payroll but to personnel tasks – and it is charging for an "optional module" for its personnel system to handle those functions.

Bureaux, too, are split. Among the big names, Baric and Centrefile are making the changes free of charge, but CMG director Chris Harrison said the company was still considering its policy.

"These changes are statutory so it's not normal to charge for them," said MSA payroll product manager Martin Fairbairn. "Every year we have changes to make, free of charge, to handle new tax rules and National Insurance contributions arising from the Budget. Users enter maintenance agreements with us to get these changes as a matter of course."

David Dryden, marketing and development manager at Peterborough, said, "We've discussed the legislation with the Department of Health and Social Security and agreed that 90% of it relates to personnel functions.

"These include the recording of days of absence, the storage of entitlement details and the calculation of the number of days payable."

## LINE NOISE

FOR those who have been keeping their fingers crossed for the sooner rather than later arrival of pukka IBM Personal Computers over here, the latest whisper is that IBM is to unveil the machine officially on January 18. But if it does not materialise then after all, do not lose hope. American giant General Electric, which sells the IBM PC as an intelligent terminal to its computers in the US, is planning to offer it in the UK soon, regardless of when IBM moves in.

*THE Scottish company Future Technology Systems, which recently won a British Technology Group prise for its 16-bit distributed network computer based on 8088 and 8086 microprocessors, is poised to begin its export drive into Europe. An announcement about a major distributor is imminent.*

ICL faces an intriguing choice of UK supplier if it is to move into the 16-bit microcomputer market. At present it sells – and builds – the Rair machine as the ICL eight-bit personal computer. At the same time it buys 16-bit 2200 word processors from Logica VTS. But now Rair has announced a 16-bit micro – just as Logica has dressed up the 2200 as a personal computer looking for dealers. To complicate things ICL has started giving 2200 users the option of the CP/M-86 operating system.

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